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OFFICIAL REPORT

OF THE

TWENTY-NINTH

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FRUIT-GROWERS' CONVENTION

OF THE

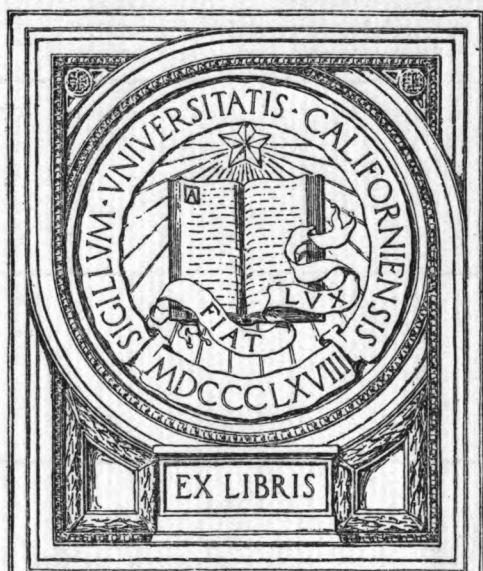
STATE OF CALIFORNIA

See 30th Fruit Growers' Convention in
Horticultural Report for 1903-4.



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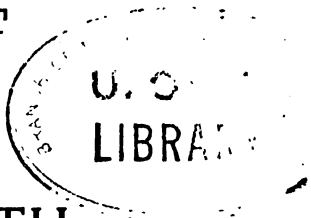


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OFFICIAL REPORT
OF THE
TWENTY-NINTH



FRUIT-GROWERS' CONVENTION

OF THE
STATE OF CALIFORNIA

HELD UNDER THE AUSPICES OF THE STATE HORTICULTURAL COMMISSION,
AT FRESNO, COMMENCING TUESDAY, DECEMBER 8TH, AND
ENDING FRIDAY, DECEMBER 11TH, 1903.



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CALIFORNIA STATE HORTICULTURAL COMMISSION.

ELLWOOD COOPER,	-	-	-	<i>Horticultural Commissioner.</i>
ALEXANDER CRAW,	-			<i>Deputy Horticultural Commissioner.</i>
JOHN ISAAC,	-	-	-	<i>Clerk.</i>

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SYNOPSIS OF THE PROCEEDINGS

OF THE

Twenty-ninth State Fruit-Growers' Convention,

HELD UNDER THE AUSPICES OF THE

STATE HORTICULTURAL COMMISSION,

FRESNO, DECEMBER 8-11, 1903.

FRESNO, Tuesday, December 8, 1903.

Pursuant to call, the Convention met in Armory Hall at 9:30 o'clock A. M., December 8, 1903.

President ELLWOOD COOPER, State Horticultural Commissioner, called the Convention to order.

REV. THOMAS BOYD, of Fresno, opened the proceedings with prayer.

PRESIDENT COOPER. The address of welcome will be made by the Honorable Mayor of Fresno, Mr. Stephens.

ADDRESS OF WELCOME.

HON. L. O. STEPHENS, Mayor of the city of Fresno, delivered an address of welcome, as follows:

Mr. President and Members of the Convention: I assure you that I feel it to be not only a privilege, but also an honor to be invited to say a few words to the members of this Convention, and especially do I deem it a pleasure to extend to you a welcome on behalf of the city which I as Mayor represent. I believe that a fruit-growers' convention should be held in a fruit-growing county, and, looking at the question from that standpoint, this Convention is called together in the proper place, for Fresno is not only a fruit-growing county of considerable magnitude, but it is also a growing fruit-growing county. We appreciate the fact that your deliberations here will be of much benefit to us, and we also believe that your visit here can be made one of pleasure and interest to you. We trust that while you are here you will make

a visit to our surrounding country and, as the spider said to the fly, "We have many pretty things to show you while you are here." We will show you an irrigation system which has reached a high degree of perfection; one which has few equals anywhere in the world, and none in this part of the country; one which carries the life-giving waters from the snows of the Sierras down to the plains and delivers them to our vineyards and our orchards and our alfalfa fields just as surely as the venous system carries the blood all over our bodies. I know you will enjoy a visit to our vineyards and our orchards, and perhaps to the orange groves which lie in the hills out yonder in the citrus belt, and when you return to our city we will open our doors to you. We welcome you to our public institutions. We invite you to inspect our schools, for we are proud of them. We have an energetic Chamber of Commerce, which lives in its own little home down in the park by the depot, and we are proud of it and the energy it displays here.

I now formally give into your hands the keys of our city, the old and rusty keys, but they express to you the welcome which we extend to you. We trust that your deliberations here will be both pleasant and profitable, and that when you have finished them and go to your several homes you will take with you pleasant recollections of your visit here and that you will always speak kind words of us, as we shall of you, for we will always like you better for having known you better. I thank you and I welcome you.

H. P. STABLER, of Yuba City, and A. M. DREW and W. R. McINTOSH, of Fresno, were chosen Vice-Presidents.

PRESIDENT COOPER. MR. JOHN ISAAC will act as Secretary of this Convention. He is here at my right hand.

ANNUAL ADDRESS OF HORTICULTURAL COMMISSIONER, HON. ELLWOOD COOPER.

Ladies and Gentlemen Fruit-Growers: This is the Twenty-ninth State Fruit-Growers' Convention, and the second held under the auspices of the State Horticultural Commission.

We have met here to discuss fruit subjects and to improve our knowledge so that we may be more successful in our undertakings and be better able to confront the difficulties which beset us on every hand.

It is to be hoped that the widest range of ideas will be brought out—ideas bearing directly upon the main issues of the three leading questions that menace our prosperity: *First*, selling our fruits; *second*, transportation; and, *third*, insect pests.

Formerly, when the production was not equal to the demand, there did not seem to be the same necessity for combined effort, for prices

were active and there was no danger of neighbors competing with neighbors and selling at rates ruinous to the growers. Co-operation will prevent all such ruinous competition. It does not partake of the nature of a trust, as each individual manages his own orchard, reaps the benefit of his labor and expenditures, has a voice in what should be fixed as a fair price for the quality of the fruit he has to dispose of, and, at the same time, has the consciousness of dealing fairly with his neighbor. This question was very ably discussed by A. H. Naftzger in a paper read before the Twenty-fifth Fruit-Growers' Convention. (See Seventh Biennial Report, page 127.)

Fruit-Growing.—The season just closed has not been as disastrous as that of 1902. The walnut-growers have received higher prices than ever before, at least since any considerable quantity has been produced, but there exist grave doubts as to the future of this industry. A fungoid disease, known as "walnut blight," has in some districts reduced the crop one half. The spread of this malady is very much feared. The Walnut-Growers' Association has offered a prize of \$20,000 for a feasible remedy. Spraying with the Bordeaux mixture has lessened the loss in some orchards, but this remedy is impracticable on full-grown trees.

The citrus industry was never more depressed than during the past year. Orange shipments were not successful; shipments of lemons were worse. Some lemon-growers are intending to bud oranges on their trees, others to root them out and plant something else. Notwithstanding the future uncertainty, I have, in my travels, observed new plantings in almost every locality adapted to citrus-growing. My fears were fully expressed at the Twenty-eighth Fruit-Growers' Convention. (See Report, pages 10 and 17.)

Shipments of table grapes, of large and fine varieties, have given excellent results. Wine grapes have not sold at prices that would pay for their production.

Olive-growing remains uncertain as to the future in oil-making, by reason of substitutions and adulterations and the forcing of our oil on the market at ruinous prices, in an effort to compete with all sorts of abominations, the public not being educated as to the extent of the frauds or the danger in consuming substitutes. The ripe-olive pickle, however, is in great demand, and a large market offers to those who will give to this branch of the business that care and attention which are required to produce an article that is marketable.

Shipments of deciduous fruits have given fairly good results for the last crop.

Almonds have been sold at higher prices than for many years past, but, considering the sparse crops in some years, the danger of frost, and the average result in a decade, further planting can not be encouraged.

In regard to prunes, the result is uncertain and will remain so until all dissensions among growers are harmonized.

We are in the raisin district, and during the sessions of this Convention we will hear all about the prosperity in raisin-growing.

The program as presented is a very elaborate one. The papers promised will no doubt discuss in the most able manner every phase of the fruit question, so that it would be out of place in the opening address to take up any special part that others have been invited to discuss.

The Panama Canal.—It is greatly regretted that the treaty which was made was not confirmed by the Colombian government, so that this gigantic work could have been commenced and the canal built without unnecessary delay. It is gratifying, however, to read the following from President Roosevelt's message to Congress: "If they will come to an agreement with us in a straightforward fashion we shall in turn act not only with justice but with generosity, but if they fail to come to such an agreement with us we must forthwith take the matter into our hands." [Since the above was written, the Panama government has signed the treaty and it is now before the United States Senate.]

The advantages of an interoceanic canal to the fruit-growers of California have been discussed by Edward Berwick at several of our sessions. At the Los Angeles Convention, held in May of this year, the question of a cross-continent double-track railroad, to be built and operated by the Government, was considered and thought to be of much greater importance than the canal. The President was memorialized regarding such an undertaking. (See official report of the Twenty-eighth Fruit-Growers' Convention, page 181.) The feasibility of such an undertaking and its importance to the advancement and prosperity of the great body of the American people were ably discussed in a paper presented by F. E. Kellogg, to be found in the Eighth Biennial Report, page 319.

New York Obelisk.—The removal of Cleopatra's Needle (known as the New York obelisk) to California, as mentioned at two former conventions, has claimed a continuance of my efforts, but without the least apparent success. In correspondence from the Park Commissioners of New York, they declare that the obelisk is not scaling off; that no such proposition as removal would be entertained; that if it was a fact that the obelisk was undergoing disintegration, they would build over it a glass house and protect it. Since the date of the said letter, I have seen it reported that the obelisk is scaling off. No effort has been made to protect it. This ancient relic of a former civilization should claim the attention of every intelligent citizen.

Consular Reports.—As requested by the fruit-growers in convention at Los Angeles, I made arrangements with the Commercial Museum to give me the consular reports as soon as received. I found that all of the machinery for the circulation of these reports was in motion through that body, and to establish an independent source would take time and could not be completed for the then growing crops. These reports require much time to get out and mail, there being a large number sent out each time. We have been obliged to purchase not only a mimeograph, but also an addressing machine, with the necessary appliances, at a cost of over \$150, and in addition, to get an assistant on certain days, so as not to delay the mailing. The information can be condensed, and in some cases very important news can be cabled. But to organize a complete system it will be necessary for me to visit Washington and arrange in person with the Secretary of State. This I hope to do the coming year; in the meantime, however, we will send the reports as received.

Irrigation.—The Eleventh Annual Irrigation Congress, which was held at Ogden, September 15th–18th, was one of more than ordinary interest to California, and was very largely attended by delegates from this State. California is more deeply interested in the irrigation problem than any other section of the United States, and the fact that the General Government has taken up the work of redeeming our arid wastes, by bringing them under water, should receive attention from this Convention, and we should, while expressing our gratitude for small favors already received, place ourselves on record by demanding from Congress such aid as will ultimately husband our entire water supply and carry it to the lands where it will do the most good, thereby providing homes for tens of thousands more people, and adding millions to the wealth of our State and nation.

In connection with this subject of irrigation, there is another question which greatly interests the people of the San Joaquin Valley, and especially those of Fresno, and that is the matter of drainage. These two questions must go together; they are complements of each other, for unless we have perfect drainage, irrigation will in time fill the soil with water, and bring to the surface deleterious salts, which will prove injurious to our trees and vines. This is a matter which I think properly comes before this Convention for consideration in connection with the larger one of conserving and applying our water for irrigation.

St. Louis Exposition.—In the coming spring there will open in St. Louis the largest world's fair ever held in this or any other country. At it will be gathered representatives from all the nations of the earth. People will go there to be educated, and they will go there for business. California has never been found lagging behind in events of this char-

acter, nor will she be now, for we have a good working commission, which is already making its work known. But it is at once our duty and our interest to take part in this affair as the organized fruit-growers of the leading fruit section of the world, and I would suggest that some measures to this end be taken at this Convention. We shall have Mr. Filcher, one of the commissioners, with us, and can learn from him what course would be best to pursue in harmony with the work already done.

Commerce in Fruit in San Francisco.—The matter of the exactions of the middlemen has often come before our conventions, but we have not as yet reached any sure method of escape from their often unfair and sometimes dishonest treatment. I understand that there is, at the present time, a combine among the fruit commission men of San Francisco, which has established rules regulating the retail trade, and has even undertaken to prevent the growers selling in the open market by punishing with the boycott and other un-American methods the retailer who dares to purchase from others than members of the combine. This is a matter well worthy of our consideration and one which should receive attention.

Food Adulteration.—My remarks on this subject at the Los Angeles Convention in May last were very full. I shall not dwell upon it at this meeting. Suffice it to say that Congress is now in session. This is what is known as the "long term," and we should urge our representatives to lose no opportunity in securing the passage of an interstate pure food law, similar to that passed by the House of Representatives during the session of the previous winter. The olive industry can never be successful until such an Act becomes the law of the land, and our California law, now on the statute book, fully carried out.

In the present advanced age of civilization and progress, it is difficult to conceive how the human family could permit any tampering with food products. Yet this has been going on year after year, so that scarcely any food is what it purports to be. This false labeling can only be prevented by positive law, swift in its execution and severe in its punishment. While we have many able engineers engaged in the investigation of the sanitary conditions of our cities, and some of our best people devoting their lives to the improvement of the homes of the great mass of people, and devising means to give them better ventilation and more sunlight, thereby endeavoring to make life more cheerful, we have, on the other hand, neglected the most important of all, the nourishment of our bodies. I copy from the Chicago "Record-Herald" an extract written by William E. Curtis :

Impure and adulterated foods leave a trail of human woe. We do not realize the amount of disease that is due to poisonous and indigestible substances that are mixed

in with the things we eat. Along this trail are sufferers from dyspepsia, rheumatism, appendicitis, all sorts of liver and kidney diseases, impure blood, impure complexions, and all forms of stomach and bowel complaints. More suicides, crimes, vice, unhappiness, divorces, business incompetency, and ugly tempers are due to bad cooking and impure food than to any other cause.

The desideratum of this life is good health, and the sooner we devote our energies to secure this, the sooner the greatest blessing that is possible on this earth will be realized.

Insect Pests and Fungoid Diseases.—While the devastation by insect pests is less by reason of a better knowledge of how to reach them by sprays and fumigation and, more particularly, by the discovery and distribution of parasitic insects, the fungoid diseases become more and more alarming. We have no knowledge of how they appear, or of how they spread. The mysterious vine disease, formerly confined to a small area in southern California, is now in various localities in many parts of the State, and just what will be the final result is a problem yet to be determined. The pear blight is extending, and the large interests in this branch of the fruit industry are liable to be very much reduced. The walnut blight is terribly alarming. This fruit heretofore has been considered the least susceptible to injury, and the easiest to manage in gathering and marketing, requiring less labor for the returns, and, in fair seasons, reasonably profitable. But our experience in the past few years has made it uncertain how long we will continue to grow walnuts.

At the Los Angeles meeting I pointed out the danger, notwithstanding our efficient quarantine laws, of introducing insect pests worse than those that have so far appeared in this State. These are the gypsy moth, the Morelos orange-maggot, the Australian fruit-fly, and the Hawaiian melon-maggot. As we extend our tree-planting, we broaden the territory and increase the danger. It seems to me that from past experience, we should realize the necessity of keeping more than one competent investigator traveling in foreign countries. Only a few days ago two carloads of Mexican oranges were ready for shipment to California. The Southern Pacific Company, being aware of the danger of introducing insect pests into the State, refused to haul them. We have always found the railroad companies ready and willing to assist us in enforcing our quarantine laws.

I have received reports from nearly all the County Horticultural Commissioners in the State, in regard to the fruit conditions in their respective counties, and in all of them appears the statement that the codling-moth is very bad. Regarding this pest, which is prevalent in every apple-growing district, I have copied the following extract from the report of George Compere, published in the journal of the Department of Agriculture of Western Australia, August, 1903, page 143:

My attention was directed to that of the codling-moth (*Carpocapsa pomonella*). This resulted in the discovery of no less than eight different species of parasites which

destroy this moth, and one species, in particular, if properly introduced into a new country infested with the moth, leaving behind the secondary form, would soon bring the moth into subjection. It is interesting to watch the performance of this ichneumon fly in her search over the stem of an apple tree for the hiding place of a codling-moth larva; where one was located, she would at once elevate her long ovipositor in a loop over her back, with its tip on the bark directly over the place where the moth larva or pupa would be located, and as soon as the opening by which the larva had entered was found, she would then make a derrick out of her body, and with great skill would proceed to search for the moth grub with her long ovipositor, and as soon as it would come into contact with one, she would immediately deposit her egg in the pupa or grub of the moth. In one instance, a grub, when it found it was being attacked, made a hasty exit from beneath the bark and proceeded to crawl up the stem of the tree, but before it had proceeded more than one inch, was discovered by the fly, who at once changed her position and attacked the naked grub, in which an egg was deposited. This grub was placed in a breeding tube, where it at once assumed the chrysalis form, and from this was reared a parasite.

I have received letters from fruit-growers asking if such was the fact, and urging the importance of its introduction into California. It is to be hoped that we will be able, before the apple trees bloom in the coming spring, to send George Compere to Europe to collect these parasites and to have them distributed in California. Mr. Compere is now in the service of the Agricultural Department of Western Australia and is traveling in India in search of the parasite of the fruit-fly.

The Horticultural Commission, which I direct under the charge of the Governor, will have at the St. Louis Exposition a cabinet containing the noxious insects which have disturbed our fruit and fruit trees, with their parasites and predaceous insects, side by side, to be viewed through a microscope. The purpose of this exhibit is the hope that such an object lesson will give new impulse to the principle of keeping in check, by means of their natural enemies, all noxious insects that disturb plant life and its fruits. The practical demonstration of this principle, which exists through all nature, is one of the great discoveries of the age, and ought to place California fruit-growers on a higher plane of economics than can be claimed by any other people. We will have, also, a cabinet containing copies of all the reports and bulletins issued by the State Board of Horticulture from its organization down to the present time, and which will include the report of the proceedings of this Convention.

Forestry and Rainfall.—The subject of the preservation of forests and the planting of forest trees, on which I have discoursed in previous addresses, has been omitted, for the reason that the National Government has taken up this important work, as have also boards of trade, chambers of commerce, and other local organizations, so that anything I could say would not materially increase the interest. However, having received the Government's official report of the rainfall in the Middle West, it might be interesting to show the gradual decrease in each decade for the past fifty years. I quote the following:

It is frequently said that the rainfall of the Mississippi Valley States is not as heavy

as it was fifty years ago. A record which has been kept for fifty years at a point in east central Iowa shows that there is a good foundation for this belief. The record by decades is as follows:

	Average Inches.
First decade to 1849.....	51.73
Second decade to 1859.....	48.82
Third decade to 1869.....	39.73
Fourth decade to 1879.....	34.68
Fifth decade to 1889.....	32.30
Sixth decade to 1899.....	30.66

The marked change in the volume of the water in all the rivers and lakes of the Mississippi Valley territory would seem to harmonize with the above record. The problem in the near future would seem to be, not how to get rid of the rainfall, but how best to conserve it.

The condition of the prairie lands in the Middle West in 1849, with the condition of the forests in the Northwest, would seemingly account for this lessened rainfall, as well as the unprecedented floods of the past summer. A lumber merchant of San Francisco, who visited sawmills in Minnesota the past summer, related to me the destruction going on in the lumber districts. He stated that he saw logs being cut which were so small that they would square but one piece 4 by 4. Fifty years ago a vast area of the Middle West was covered with prairie grass, the top soil being a mass of roots, which would probably absorb and hold at one time ten or more inches of rain. This rainfall would percolate the soil below and leave the surface root-mass to absorb the succeeding rains; and this moisture would be given out by means of springs and evaporation, which would cause rains throughout the season. It would be the same in the forests; the roots would absorb a great many inches of rain. Farming operations have changed all this. If something is not done, the floods will increase and be more and more disastrous.

Statistics of the rainfall in southern California, from records kept during a period of thirty years, and which do not include the winter of 1902-03, show that there was a period of six years, not including the past winter, in which the rainfall was much less than the normal. Dividing the thirty years into periods of six years, we find the following:

- First period of six years averages over 20 inches.
- Second period of six years averages about 21 inches.
- Third period of six years averages about 20 inches.
- Fourth period of six years averages over 19 inches.
- Fifth period of six years an average of less than 14 inches.

Showing that we were short in the last period of six years from 40 to 42 inches. There is more holding power, or rather more power to absorb rain, in the way this section is farmed and planted than ever there was when it was devoted entirely to pasturage; and hence the hope, and real prospect, that our rainfall will not diminish.

I refer this address to the consideration of the members of the Convention.

MR. STEPHENS. Mr. Chairman, I move that a committee of five be appointed upon the President's address, to be composed of the following gentlemen: John Markley of Sonoma, George L. Hunt of Sacramento, Edward Berwick of Monterey, A. N. Judd of Watsonville, and W. R. McIntosh of Fresno.

Adopted.

THE FARMER AS A TAXPAYER.

By JOHN TUOHY, OF TULARE.

Taxation is incidental to and an essential of civilized government, as much as government is incidental to and an essential of a civilized people. Every right-thinking citizen understands this and realizes the importance and the necessity of it. The problem is, how to make a tax just, equitable, and right? Is our tax system all that?

The proper treatment of the subject on which I am addressing you requires a consideration of what taxes are for, who pays them, and who should pay them. Taxes are that which we pay the government for its protection of our persons and property. As every citizen receives from the government the protection of his person and property, so every citizen of right should, in proportion to the protection of his person and property, contribute, in taxes, to the support of the government. I doubt not every citizen would freely, readily, and willingly do this, could he be satisfied that every other citizen was as freely and readily paying his tax. Could a system of taxation be evolved by which every citizen must pay his just share of tax, based upon the ability to pay and the protection received, it would be an ideal system never yet attained. Such a system of equitable taxation has never been formulated because, owing to conditions, some citizens and some classes and industries have to contribute toward the support of the government more than their equitable share of taxes, and because many who are able, and very able, to pay their pro rata of tax do not do so owing to their ability to evade the law. All systems of taxation are more or less defective. As a taxpayer, does the farmer pay more or less than his fair and equitable share?

The Constitution of California provides for a system of taxation. Article XIII, Section 1, reads: "All property in the State, not exempt under the laws of the United States, shall be taxed in proportion to its value, to be ascertained as provided by law." In the ascertainment of property for taxation, all realty, and every improvement on realty, not capable of being concealed, are listed. Personal property which is non-concealable or undeniable is listed; all other personal property, for the most part, pays no taxes.

On referring to the report of the State Controller for 1900-1902, I find that the assessors of the several counties of the State, in real

estate return about four times the assessed value that they do on personal property, including money and solvent credits, so that real estate, in California, pays four times the amount of taxes that personal property does. Does any one here believe that the *cash* value of real estate is four times greater than that of personal property? The same discrepancy prevails in every State depending on a general property tax for a State revenue. The assessors are not to blame. The system is the cause. The system should be changed. To make the change the Constitution must be amended so as to enable us to have a system of taxation which will be more equitable, more in accordance with a progressive people, and more in accordance with the changed conditions of industries and commerce to what they were when our Constitution was adopted.

The property of the farmer is, perhaps, nine tenths real estate and improvements, all of which is listed for taxation; in addition, his personal property is listed in greater detail than is that of any other industry or pursuit. Of no other calling or industry is such a detailed, minute list of taxable property required, and for this reason the farmer, on his personal property, in both amount and assessed value thereof, pays a very much greater tax than does any other industry or calling. The farmer, considering that a very large percentage of his property is realty, considering the scrutiny with which his personal property is listed, compared with any and all other classes of taxpayers, pays a tax out of all proportion to his ability to pay. It will, of necessity, be so until we have a better and more equitable system of taxation.

The system of a general property tax for purposes of State, county, and township revenue is now antiquated. At the time the first Constitution of California was adopted in 1850, now more than half a century ago, considering our industrial condition, it was then, perhaps, as good a system as could have been selected; but that half century has brought wonderful developments in every science, in education, in every industry, in every calling, in fact such progress has been made, in that period, as the world had not made for centuries before. In our revenue laws, California has made no progress; they should now be made adequate to the progressive times in which we live. How to do that I am not, now, ready to discuss. It requires much careful thought and long consideration, and I believe that this State Fruit-Growers' Convention should appoint a committee of five, to co-operate with a like committee of the State Grange, Patrons of Husbandry, appointed at its last session, for the purpose of studying the subject and reporting to the next State meetings, when the subject could be considered and an amendment to the Constitution be formulated which will enable California to have a model form of revenue laws, from which other States can copy. I believe, too, that the committee which this Conven-

tion selects, if it does select one, and the committee selected by the State Grange, should attend the next State Republican and Democratic conventions, and have them, in their platforms, advocate the revision of the revenue laws of California as we contemplate. With the indorsement of these conventions, and the interest we hope to have the public take in the matter, we have no fear of a failure.

On this subject of a general property tax, his Excellency Governor Pardee, in his inaugural address, dwelt quite fully as to its workings in California and in other States; he also told what other States are doing to remedy the defects of the general property tax system.

Many of the States have appointed commissions to study and report on the subject. Perhaps the report of expert George Clapperton, to the United States Industrial Commission, is as complete as any. This report has special reference to Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Michigan, Illinois, Wisconsin, Iowa, and Texas. While the findings and conclusions of the expert are full and very interesting, it would, to quote therefrom, take more of the time of this convention than I desire to occupy. They are such as your committee can consider very profitably. Of the States before named, Massachusetts, Ohio, New York, Indiana, Michigan, Illinois, Iowa, and Texas have a general property tax, but get much of their revenue for State purposes from other sources. In New York the State Controller, in his report of 1898, commenting on the State revenue laws, while most of the State's income is from other sources than a property tax, says: "It must be confessed that nearly all our tax laws are legislative makeshifts and many of them blunders." Connecticut, New Jersey, Pennsylvania, and Wisconsin derive no State revenue by a tax on property. Pennsylvania taxes no real or personal property, for State purposes, except under certain conditions; a small amount of personal property is taxed, and three fourths of the revenue therefrom is returned to the counties; nor is personal or corporate property taxed for county, township, or borough purposes. Eastman, on taxation for State purposes in Pennsylvania, says: "In closing this sketch it may be said that, while the State tax system of Pennsylvania can doubtless be improved, in many respects the system itself is a very excellent one. The burdens of taxation for State purposes are almost wholly placed upon corporations, leaving individual taxables subject to taxation for local purposes only, except that the mortgages, bonds, and other classes of personal property taxable under the laws of the State held by them, pay a State tax, but three fourths of even this tax is returned to the counties to relieve burdens of local taxation."

Contrast that with the opening remarks of Prof. Carl C. Plehn, in his "General Property Tax in California," who says: "The general property tax is a failure in the United States. It has proved itself to

be unsuited to modern economic conditions. Nowhere has it been found possible to administer it with any approach to justice. Even if the assessment and collection could, by any yet undiscovered means, be made with such exactness as to fulfill every requirement of the law, yet the tax would still be unequal and ill-adjusted to the tax-paying strength of the citizens. The tax systems of most of the American commonwealths must be reformed."

Again, he says: "To ascertain what is the total amount of property in a State is impossible when the forms which property takes are as numerous and as complicated as at present. Under modern economic conditions the general property tax is fundamentally wrong in principle. At the present time property is not a fair indication of ability to contribute to the support of the Government."

In Wisconsin there is a tax commission appointed by the Governor and holding office for ten years. This commission prepared a bill, which was passed by the Legislature in May last, which substitutes an ad valorem tax on all railroads operating in the State for the license tax now required, and which the commission believes will provide all necessary State revenue without further State tax. The tax commission, which is also a State board of assessment, will, in ways prescribed by the Act, ascertain and determine the amount and cash value of all taxable property in the State, also the amount necessary to pay all State, county, and local expenses. The board will then calculate and determine the necessary assessment on all the property of the State, to pay this indebtedness and expense. This will be the tax rate on the property of all railroad companies, who will pay the same into the State treasury for State purposes, and this exempts the railroads from all further county or township assessments, except assessments for local improvements. The taxation on all other corporations (insurance, telegraph, telephone, electric light, etc.) stands as it was—mostly a license tax based on incomes.

Since the appointment of the Wisconsin tax commission in 1899, it has made two annual reports, which are valuable literary and educational contributions to the science of taxation, particularly in reference to corporate taxation. In 1901, the Wisconsin tax commission made its first annual report, in which it does some interesting figuring. Letters of inquiry were sent to about six thousand representative farmers of the State. These letters desired information relative to the proportion of expense to gross income, per cent paid in taxes to gross income, what relation personal property (including implements and live stock) bears to total assessment, and the farmer's opinion of the ratio of the assessed value of his farm to the true value of the same. To this last question, 1,124 replied 38 per cent; to a similar inquiry

among manufacturers, the reply was 37.2 per cent. 954 farmers in sixty-four counties stated that their gross earnings amounted to \$871,357, and their taxes \$37,297, or about 4.2 per cent of gross receipts. 656 farmers reported from fifty-eight counties, giving their gross income \$687,469, and their income less expenses \$204,152, the ratio being 70.3; the taxes of these 656 farmers being 13 per cent of income. Of 592 farmers the ratio of assessed to true value was, land 38, implements 28.7, live stock 45.2. Except land, live stock is assessed closer to its amount and closer to its real value than is any other class of property.

In California, Professor Plehn, in his "General Property Tax in California," says: "The census estimates of the true value of farming property are more reliable than are the census returns on the true valuation of city real estate, because the value of farming property was ascertained by the enumerators." In 1890 and 1891 the assessed value of the farm lands and improvements was between 62 and 66 per cent of the true valuation. In the same years the assessed value of city real estate was 54 per cent and 55 per cent. Continuing, Professor Plehn says: "It would seem, then, that the average farmer's real estate, which constitutes 90 per cent of all his taxed property, is probably assessed at from 8 to 12 per cent higher than the average townsman's real estate, which forms but 80 per cent of all taxed property. It is undoubtedly true that the 90 per cent represents more nearly the true proportion between the farmer's real estate and his personal property than the 80 per cent does the proportion between the real estate and the personal property in towns."

Justice Cooley, in his work on taxation, says: "The assessment of personal property reaches so small a portion of the amount really protected by government that it might almost be said that laws for the purpose remain on the statute books rather as incentives to evasion and fraud in the dealings of the citizen with the State than as a means of raising a revenue for public purposes." This might aptly be applied to the system for the taxation of corporations as well as intangible personalty in many of the States, *a system that puts a premium upon evasion and inflicts a penalty upon honesty and weakness.*

The remedies seem to lie in the adoption, by the several States working in harmony so far as may be, of new and modern methods based on correct principles for the taxation of special forms of property, separate and distinct from the general property tax in respect to both valuation and rates of taxation, and a thorough administration thereof.

In the States investigated there has been more or less departure from the general property tax toward the adoption of special methods for the taxation of corporations. With few exceptions, however, efforts in that direction have thus far been devoid of real method or design,

and upon the whole "chaos" is the only descriptive term applicable to existing conditions in commonwealth taxation.

There is a marked tendency in all these States toward making earning power the basis of taxation for quasi-public corporations. Properly directed, this must be regarded as the correct principle and capable of practical application to such corporations under existing industrial conditions. There is also, however, a strong inclination to cling to the old system in part, and to use this principle in conjunction with some feature or factor of the property tax, more particularly to use earning power as a basis of property valuations in connection with property tax or "uniform" rates.

A mistaken conception of the property tax theory of "uniformity," and a general disposition to apply the misleading iron rule of equal taxation to all forms of property, are revealed in most of these States, so far as public sentiment is concerned. As bearing upon this observation, the following is quoted from the case of *Pacific Express Company vs. Seibert*, 142 U. S. Supreme Court Reports, page 351: "This court has repeatedly laid down the doctrine that diversity of taxation, both with respect to the amount imposed and the various species of property selected either for bearing its burdens or for being exempt from them, is not inconsistent with a perfect uniformity and equality of taxation in the proper sense of those terms; and that a system which imposes the same tax upon every species of property, irrespective of its nature, condition, or class, will be destructive of the principle of uniformity and equality in taxation and of a just adaptation of property to its burdens."

The great problem of commonwealth taxation, of commanding interest in all States, consists practically of reform in the methods of taxing corporations and individual personalty of an intangible character, and an improved administration of a circumscribed property tax.

The principle that taxes should be levied in proportion to ability to pay, and that, even under the general property system, they are designed to be upon persons rather than upon property, is generally recognized. Under existing economic conditions property is no longer regarded as an adequate test of ability to contribute to the support of the Government. Hence, the marked tendency to apply different tests to special classes of property owners. There is a growing class of citizens who receive large incomes or salaries, and enjoy all the advantages of society and good government, who, though possessed of abundant ability to pay taxes, are, under existing systems, practically exempt from taxation or are inadequately taxed. This class is receiving, and must continue to receive, especial attention in the revision or reformation of taxing systems in the several States.

While a tax upon individual incomes is generally conceded to be just and equitable in principle, it has been received with disfavor and regarded as impractical in its operation. It is apparent, however, to the careful student of commonwealth taxation, that because of its justice and the increasing efficiency of State administrative methods that are being evolved, the idea of a limited supplementary State income tax is growing in favor and coming to be more generally regarded as a practical measure under State supervision. Such a tax has always prevailed in Massachusetts; the present law of that commonwealth, which the Legislature recently refused to abandon, imposing a tax upon so much of the income of a profession, trade, or employment as exceeds the sum of \$2,000, but exempting incomes derived from property subject to taxation. While this law is imperfectly administered, it is not infrequently suggested by eminent authorities upon the subject that a supplementary income tax of that character, imposed directly by the States, under modern methods of administration, would become an efficient and practical source of State revenue. In conjunction with the principle of taxing corporations upon earning capacity, it seems destined to receive increasing consideration in the several States.

I deem it unnecessary to go into further details, as it is manifest, from what I have said, that the farmer pays a pro rata of tax greatly out of proportion to any other class of taxpayers, the value of his property and his ability being considered. This, undoubtedly, is due to the defective system of taxation in California, a system utterly unsuited to the needs and economic conditions of a great and progressive State and people. In consequence of the changes made by the State Board of Equalization in this year's assessment, never in the history of the State have the incidents of an assessment, under our defective system of taxation, been so glaringly brought to public attention, never has the public mind been so well prepared to consider, investigate, and approve a better system, when presented, than now. Let the farmers of California be the first to advocate the necessary change in our tax system. It is their right, it is their duty to do it.

MR. STEPHENS. Mr. President, I move that the paper be received and placed on file, and that a committee of five be appointed by the Chair to consider and hereafter report upon the matters set forth therein.

Adopted.

DISCUSSION ON TAXATION.

PRESIDENT COOPER. We have about three-quarters of an hour before the time to take a recess, and while I do not wish to discuss the propositions laid down, I want to make a statement. There are a great many serious questions involved in this matter of taxation. Many of the suggestions which you have heard are practically impossible, because you can not get at the truth. Another thing: It is very expensive to change the Constitution of the State, and it is not certain that it would be any better when changed. I was once called upon to suggest a plan for taxation, and did suggest a plan. It was published in several newspapers of the State, and there it ended, and, really, I have forgotten all about it, myself. I wish to speak of the method of taxation adopted by a West Indian country where I lived for ten years, the Republic of Hayti. No industry, no land was taxed in the whole republic. They taxed everything that was exported. Everything exported had to go through the custom-house. And they levied a tax on all imports. A tax on these two things was levied to get all the revenue that was necessary to run the government. It was feasible, because they had only to go to the records for the past year, if they wanted more money, in order to ascertain the revenue derived from exports and imports. In time every means of taxation will equalize and regulate itself. The less cumbersome the system is, the greater facility in its execution and the more equally you reach all the people. That was the plan of taxation in Hayti, and it was a very successful one.

VICE-PRESIDENT McINTOSH. Ladies and gentlemen of the Convention: Since your President has felt called upon to make a statement respecting the paper just read by Mr. Tuohy, I presume a general discussion of this question would be in order at this time, as we have about thirty minutes at our disposal. I should be glad to hear from at least half a dozen gentlemen whom I see on this floor, respecting this very important subject.

MR. KELLOGG. I would like to speak a moment on this question. I know an incorporated city that has, practically, no city tax whatever. You know we have two kind of taxes—a direct and an indirect tax. The reason this city has no city tax whatever is because it owns its water works, and the sale of water pays all the expenses of the town. Now, that was an experiment on a small scale. I want to call attention to the government experiment station of the world to-day, an experiment station for all mankind. It has a full-fledged government, with large cities and all the industries of any government. That is New Zealand, and I want to call attention to its system of taxation. They do away with the indirect tax, the tax paid to corporations, by the people themselves, going into certain industries—not all industries, but

certain industries. They proceed on the principle that those things which are used by all the people in common, like the postoffice, should be owned and operated by all the people in common, so New Zealand has gone not only into the business of postoffices, but also into that of government banks, life and fire insurance, and of railroads, and the cities own their own water works, they own their telegraph and telephone systems, and thus revenue comes in from these public utilities which the people themselves own, and thus taxation has been reduced to a very small fraction of what we pay in this country. The direct taxes which the people have to pay to support the government are very small. They proceed on the principle that on the amount of land a man requires he should no more pay a tax than he does for the sunshine, or for the air which he breathes, and if he only owns \$2,500 worth of land he pays no tax whatever. He needs that much for the support of himself and his family. When he goes beyond that, he is carrying on a business for profit. He has more land than he needs, and in consideration of the profits which he enjoys he is required to pay a tax to the government which protects him in the enjoyment of that property. The tax is small at first and increases as his estate increases. The larger his holdings, the higher his rate of taxation, and it automatically fixes a limit to this question of land monopoly. There is a point beyond which no man can go. That is one branch of their tax system. Another branch is this: Up to the limit of \$1,500 a year a man pays no tax on his income, on the theory that he needs that much to be able to live and support his family; but when his income exceeds \$1,500, then his taxation begins and goes on with an ever-increasing ratio, the higher his income, the higher the rate of taxation; and in that little country of New Zealand, that experiment station of the world, this system has succeeded so admirably that in the period of ten years the number of people who own homes there has increased 50 per cent. It is a wonderful success, and I think it is a system of taxation we should have everywhere.

MR. BERWICK. I want to tell you that Germany made a revenue last year—a profit last year—of 53,000,000 marks from her postal system, and carried packages of 110 pounds anywhere in Germany or Austro-Hungary, as much as 1500 miles, for 60 cents. Great Britain carried 90,300,000 packages at the rate of 25 cents for an 11-pound package, and made a profit of \$22,500,000. Quite an alleviation of taxation. That is all I wish to say this morning.

MR. SPRAGUE. I would say that I am entirely in accord with the views of my friend from Santa Barbara. These are not merely speculations, but are in the line of ascertainable facts. It is possible for the State of California to work out these theories here, not all at

once, but gradually. One of the greatest incubuses which rest upon the commonwealth of California to-day consists of the enormous tracts of land held under single ownership, for purposes which do not develop the population and prosperity of the State. How to get rid of that condition of things is, perhaps, one of the most important questions before us. I believe the method is clearly indicated by the experience of New Zealand. I believe it to be of the supremest interest that we should take this under consideration.

MR. COOK. Mr. President, this is a very great, a very important question. We have tried a little experiment in our place. We were paying \$2.50 a month for the privilege of talking with our neighbors, and thought it too much. We adopted a telephone system of our own—a local affair. It has been very successful. It now costs us only \$1 a month, and we have increased our number very greatly. It simply shows what will come when we carry into effect the propositions suggested by my friend Mr. Kellogg. When we own our franchises we will have enough revenue and to spare to pay our taxes. We also have a local insurance company that has been quite successful—a mutual fire insurance company, which has bettered our condition about six times—have only to pay about one sixth of what we formerly did for insurance. Five years ago we started this, and we have had three fires since, and all we have paid in has accumulated. If we do not have more fires than heretofore I don't know when we will have another assessment. It looks as though we have enough money to pay for all fires we might have in the future. It simply shows how much we have been paying for those great buildings in the Eastern cities and to support those men who really have no interest in the affairs which concern us. Let us own our own franchises, as we ought to, and it seems to me that the tax question will be at least partly solved.

MR. JUDD. Mr. Chairman, this subject of taxation has worried the best minds of this State for a great many years. The manner of our taxation at present is unjust in a great many respects, and more particularly to the agricultural and horticultural interests than to any other. In Santa Cruz County the farmer is taxed for road purposes forty cents more on the \$100 than the people living within the incorporated cities. How are they exempted from bearing any part of the burden of keeping up the public roads outside of the limits of the incorporated towns and cities? I don't see any provision for that in the Constitution, but it is done to-day, and there does not seem to be any particular "kick" about it. Here is another proposition: In one county perhaps apple trees are taxed on a valuation equivalent to a dollar a tree, and right across the river, in another county, they are only taxed at one fourth that. And still another proposition: Here is a vineyard in the mountains. The law says that lands similarly

situated shall be taxed the same, improvements separate. A man, at a cost of \$50 or \$60 an acre, cleans off a hillside where you can buy the land adjoining for \$1.25 or less an acre; he put in a vineyard, and the vines are assessed for at least \$15 or \$20 an acre, yet it is impossible to get an assessor or his deputy to go up on the hillside and assess the land adjoining for anything worth mentioning. I do not think it is so much the fault of the Constitution as it is owing to the sleepy condition of the agricultural and horticultural interests in the State. They do not look after their own rights. When there come up in the Legislature those bills putting a burden upon them greater than they were bearing before, they simply look around like a person who has been hit with a club, waiting for another lick, and that is the end of it.

At this time a recess was taken until 1:30 o'clock P. M.

AFTERNOON SESSION—FIRST DAY.

TUESDAY, December 8, 1903.

The Convention was called to order at 1:30 o'clock. President Cooper in the chair.

PRESIDENT COOPER. I will announce the committees that have already been named:

Committee on Taxation—Hon. John Tuohy, of Tulare; John S. Dore, of Fresno; Hon. A. M. Drew, of Fresno; S. P. Saunders, of San Jose; Frank E. Kellogg, of Santa Barbara.

Committee on President's Address—John Markley, of Sonoma; George L. Hunt, of Sacramento; Edward Berwick, of Monterey; A. N. Judd, of Watsonville; W. R. McIntosh, of Fresno.

Committee on Resolutions—John Markley, Mrs. Dr. Sherman, Mrs. B. F. Walton, Prof. A. J. Cook, and Frank E. Kellogg.

WHAT THE POSTOFFICE MIGHT DO FOR THE FRUIT-GROWER.

BY EDWARD BERWICK, OF PACIFIC GROVE.

I appear before you this afternoon in a position in which I was placed by the last convention at Los Angeles, in default of more available timber, that of President of the California Postal Progress League. I demurred to the action of the Convention, but I told them I would accept the office under the condition that I might pass it on to a bigger man, mentally and financially, the first chance I got. I have not found any bigger man, or smaller man, ready to take the office at any price. If he is here to-day, I would like to have him come forward and

say so, because I took this office with considerable hesitancy. It is an up-hill proposition to buck against the powers that be, and that is what this thing means. I am glad to say that when I was made president of the league I had some success in enlisting under me as vice-presidents some of the leading men of the State. Our worthy President here kindly undertook to be one, Governor Pardee another, Dr. Wheeler of Berkeley another, Dr. Jordan of Stanford, Mayor Schmitz of San Francisco, and various leading men of prominence of the State of California, so I trust to that extent I did your mandate to your satisfaction. I am going to ask you all to come in and help, and this is a fruit-growers' movement. I don't want to have you say: "Oh, it is a good thing, it will come." I never heard of a fruit-grower acting on that principle in his own business. He never expects an orchard to "come" unless he plants it. Years ago I heard "benevolence" defined something this way: Benevolence is a consultation between Brown and Jones to discover what Smith ought to do to help Robinson. Now if you know what the next fellow ought to do to help this thing along, I hope you know primarily what you ought to do. If you think this cause is worth any trouble at all and worth my efforts, I want you to sustain me by adding your name to the association, if it does cost you one dollar to do it. That is our membership fee, because, although I agreed to be the president of the league, I did not agree to carry on the duties and meet the requirements of the position at my personal expense, and when you start out to fight battles you have got to have "the sinews of war." Since last May I have given daily, or almost daily, from one to three hours of my time, and from one to twenty-four hours of my best brain-power to help this movement along. I found out certain things that nobody appears to have known, or, if they did, they kept them very quietly to themselves. Now, as you know, the fruit-growers' great trouble in life for years past has been the transportation problem. It has sometimes taken the great bulk of your year's receipts and has at times landed you in markets entirely unprofitable, but you had to pay the freight. It mattered not how long your products were delayed in transit, you had to pay the freight, all the same. The loss was yours. Now in Los Angeles all concurred in the belief that there was one method of helping us in this transportation question; there was one factor found available in other lands that we in this land have neglected. Germany has found it possible to ship 150,000,000 packages annually by parcels post at a trifling cost and to make money on the operation. Now the postoffice is a branch of what we call "our public service." Those are three common, but exceedingly important, words. "Service" implies a master to be served. There must be a master to direct the service, if he would be well served. The word

"public" tells who that master is. The people is the master to direct that service. "Our" indicates that we are the people.

I want to know now who there is here that knows the various classes of postal matter that we have in the United States and the rates on that postal matter? Anybody? No. Well, you see, you can't direct our public service unless you know about things. Now, may I tell you that there are four classes. The first class consists of letters and postal cards. The rate on them you know. On letters it is 2 cents for one ounce or fraction thereof; postal cards, 1 cent apiece. The second class is newspapers and serials. They are sent from the publisher to the subscriber at 1 cent per pound, and if you or I send them out, 1 cent for four ounces. They charge us four times the rate which they charge the publisher. The third class is books and other printed matter, including seeds and scions—some concession to the fruit-grower. They are sent at the rate of 1 cent for two ounces. The fourth class is any other merchandise of any description that is mailable. The rate on that is 1 cent per ounce, with a limit of four pounds in a package.

Now then, I am sure you all want our public service to be strictly modern and up to date, as good as any other country's public service; and just a little better. You wouldn't be Americans if you didn't. Well, is that our condition at present? Regarding our first-class matter I have given you the rates already. Germany sends an 8-ounce letter for 2½ cents, and Switzerland sends an 8-ounce letter for 1 cent to any postoffice in Switzerland, and delivers the same letter on the highest mountain peak in Switzerland—quite a climb sometimes—for 1 cent more—2 cents for half a pound, delivered. Great Britain charges 2 cents for four ounces. So much for first-class matter. Now for second class matter: Our neighbor, Canada, provides the same service for half our rates. She sends newspapers for half a cent a pound anywhere, not only in Canada, but also in the United States and in Great Britain, anywhere for half a cent a pound. Within 300 miles of the sending office she delivers them free of all charges. Regarding third-class—and with the third class I will include fourth-class matter, any merchandise of any kind—you know we pay to send from San Francisco to Oakland, or from Fresno to Madera, or anywhere around here, 64 cents for 4 pounds. Germany sends an 11-pound package 1,500 miles—an 11-pound package for 12 cents; the same package 46 miles for 6 cents. She sends 110 pounds anywhere in Germany or Austro-Hungary for 60 cents, which is less than the price we pay from San Francisco to Oakland on 4 pounds. Now you can see how your present rates compare with the rates of other countries. Not only are these rates given to the public, but a profit is made at these rates by the German and English governments. You will remember that this

morning I told you Great Britain made about \$22,500,000 on her postoffice last year and that Germany made 53,000,000 marks. Switzerland made over 1,000,000 francs profit on her postal service, and France made over 20,000,000 francs profit on her postal service.

Now there are many reasons why our Government should undertake this business of giving us an up-to-date parcels post. You all know how handy it would be for you fruit-growers to be able to send off your produce with safety and celerity direct to the consumer. The great science of commerce, as I understand it, is to bring the producer and consumer together with as little friction from intermediaries as possible. It enables the producer to get a higher price for his produce, and it enables the consumer to pay a lower price for what he consumes. It helps to dispose of the intermediaries—the commission men, the jobbers, and all that class. Another reason is, it has been found that the postoffice sends things quicker than the express does. In a hundred parcels given to the postoffice and a hundred to the express companies it was found that the postoffice used twenty per cent more dispatch in delivering the packages. Another reason is shown on the subjoined chart. There are a great many more postoffices in the country than there are express offices. These figures are taken from the Congressional Record of the year 1900, which was the latest information I could get when I made these charts, and the figures are modifiable to a certain extent to bring them up to date, but they are substantially correct to-day.

States.	Express Offices.	Post Offices.	11 lbs. Express from New York	German Post Rate	Saving at German Post Rate	German P.P. 58c: this lower than American Express Rates by	Mexican P.P. 66c: this lower than American Express Rates by
Alabama.....	334	2,445	\$1 33	\$0 12	\$1 21	\$0 75	\$0 67
Alaska.....	3	53	3 89	12	3 77	3 31	3 23
Arizona.....	41	202	3 89	12	3 77	3 31	3 23
California.....	586	1,659	3 16	12	3 04	2 58	2 50
Florida.....	283	1,126	1 66	12	1 54	1 08	1 00
Idaho.....	49	424	2 43	12	2 31	1 85	1 77
Michigan.....	737	2,161	1 22	12	1 10	64	56
Nevada.....	35	186	3 89	12	3 77	3 31	3 23
Virginia.....	263	3,468	1 22	12	1 10	64	56
Wyoming.....	64	312	3 16	12	3 04	2 58	2 50

British Domestic Parcels Post.

Year.	Number of Parcels.	Increase.	Gross Postage.	Railroads' Share, 55 per cent.	Postoffice Share.
1884-5.....	22,910,040	-----	\$2,475,162	\$1,249,505	\$1,225,657
1885-6.....	26,417,397	15.3 %	2,882,772	1,455,876	1,426,895
1886-7.....	32,860,154	24.3 %	3,502,075	1,757,378	1,744,696
1898-9.....	71,915,000	119.0 %	7,295,742	3,818,827	3,436,914

Now 10,500,000 parcels are delivered by motor, or horse, vans.

Parcels Post in Other Countries.

Country.	11 lbs. by Parcels Post.			Exp. S. S. from Wash- ington.	Parcels Post, United States.
	England.	Germany.	Mexico.		
Aden	\$1 20	\$0 83	\$0 90	\$4 00	-----
Algeria	62	30	40	3 50	-----
Angola, West Africa	-----	88	70	5 00	-----
Argentina	1 16	73	58	4 50	-----
Bahamas	2 00	1 36	58	3 80	\$1 32
Belgium	53	20	35	2 00	-----
Bosnia	74	13	30	4 00	-----
Bulgaria	1 14	73	45	4 00	-----
Constantinople	66	44	43	4 00	-----
Egypt	78	44	45	3 50	-----
Foochow	99	65	58	3 90	-----
Greece	1 20	36	45	4 00	-----
Japan	1 24	93	97	3 24	-----
Jerusalem	74	39	45	4 00	-----
Madeira	68	44	45	5 00	-----

234 places. United States parcels post with 81 only.

In Alabama there are 334 express offices and 2,445 postoffices. Now, an 11-pound package from New York—of course, these are simply averages for the State, the charge depends on the distance—on 11 pounds from Alabama to New York, or vice versa, the charge by express is \$1.33. At the postal rate in Germany it would be simply 12 cents—saving to the person receiving, you might say, as he usually foots the bill, \$1.21. When I compiled the figures shown on this chart the German could send from Germany to Alabama, or to New York, 11 pounds for 58 cents. That is not true to-day, as on July 1st last our postoffice authorities reduced the maximum weight of a package carried to $4\frac{3}{4}$ pounds, and that is the most you can send now to or from Germany through the post. The Mexican could send the same package for 66 cents, or 67 cents less than the native American can send for. You see you are paying for not acting up to your privilege as American citizens when you do not direct your own postal service, letting the other fellow direct it for you. In Alaska there are 3 express offices and 53 postoffices. The express rate from New York is \$3.89. The German rate would be 12 cents—the German could send it for that before July 1st last, and his saving, the difference between the German rate and the express rate from New York, being \$3.77. Arizona has 41 express offices and 202 postoffices; 11 pounds from New York, \$3.89. The German post rate would be 12 cents; saving, at the German rate, \$3.77. The German could send for 58 cents, and would save \$3.31, and so on. I will not bother you with the chart any more. A word is enough to the wise, and I trust you are all wise.

Now you know there are two kinds of postal service, under different Acts of Congress and subject to different regulations. There is a domestic postal service and a foreign postal service. The domestic

postal service can only be altered by action of Congress, by your own action through your congressmen. The foreign postal service is arranged for in this way: Our Postmaster-General, by and with the consent of the President, has power to conclude conventions with any foreign country he sees fit. In a British postal guide I saw a list of names of 234 countries with which Great Britain had foreign parcels post conventions. Out of the 234 countries we had postal conventions with 31, not even having a postal convention with Great Britain. They had no convention with this country as to sending parcels to and fro, and, realizing that "postal service" means just what it says—that they were there to serve the public and to serve them to the utmost of their ability—they arranged with the American express companies that the British postoffice would bring the parcels to New York and deliver them to the express companies and have those express companies carry them all over the United States. You can send 11 pounds from London to New York, Hoboken, Brooklyn, or Jersey City for 75 cents, but to Pacific Grove you must pay \$1, or to any point in the Union except the four places named you must pay \$1. Now this means, gentlemen, that the express company, after paying the railroad company for transporting the packages, and after paying their shareholders a handsome dividend, can carry 11-pound packages all over the Union at a postage stamp rate of 25 cents, and if they can do that and make a profit, is there any reason why we should not tell our Government to go and do likewise? I went to the Pacific Grove Wells-Fargo's office and said: How much is the charge on an 11-pound package from here to New York? And what do you suppose he said? "Two dollars and thirty-five cents!" They carry it for the Britisher for 25 cents, and they charge you and they charge me \$2.35 for the same service. Now that may not strike you in the light of a tax, but it strikes me as such. King George's tea tax, against which your forefathers rebelled, was not a circumstance compared to the tax you are paying Wells-Fargo for carrying your packages, and it is because you will not direct your own postal service.

I want to tell you what Mexico has done regarding the postoffice. You will find in article 145, section 7 of their law, certain provisions governing franchises to railroads. They make those franchises for ninety-nine years, with the understanding and stipulation that at the end of ninety-nine years the roadbed, the depots, wharves, and all accessories, besides the rolling-stock, shall revert to the government free of any cost, the rolling-stock to be appraised and the government to have the first opportunity to buy at the appraised value. They also have required that the railroads shall carry all postal matter and all postal employés on government business free of charge, and have reserved the right to keep the last five years' earnings of the roads to

maintain the roadbeds and the accessories in good condition. But these are the rates I was going to give you: From England to Aden, or from Aden to England, an 11-pound package costs \$1.20; from Germany, 83 cents; from Mexico, 90 cents. The American pays \$4—quite a handicap against Americans. To Algeria, in northern Africa, from England, 62 cents; from Germany, 30 cents; from Mexico, 40 cents. We pay \$3.50. You see, gentlemen, the handicap on our foreign trade. One consul estimates that we are losing \$2,000,000 annually in the West Indies alone for lack of an adequate parcels post. To Argentina, South America, from England, \$1.16; from Germany, 73 cents; from Mexico, 58 cents. We pay \$4.50.

I was telling you that we had parcels post conventions with thirty-one countries. They are chiefly small countries, except Germany, Mexico, and Chile. With the Bahamas we have a convention, and we can send 11 pounds there for \$1.32, England for \$2, Germany \$1.36, Mexico 58 cents; by express from Washington, \$3.80, but our post-office carries it for \$1.32. Now if you were in Egypt and wanted to send home 11 pounds of curios, to England the rate is 78 cents, to Germany 44 cents, to Mexico 45 cents; the American pays \$3.50. If you went to Japan and wished to send home any lacquered boxes, or vases, or anything of that kind, to England it is \$1.24, to Germany 93 cents, to Mexico 97 cents; the American pays \$3.24.

Now so much for the foreign parcels post. The modern parcels post began in British India in 1865, and Great Britain itself undertook it about 1883, and 1884-5 was the first fiscal year of any prominence in the matter. They handled that year nearly 23,000,000 parcels. They agreed to give 55 per cent of the gross receipts to the railroads for carrying the parcels. The gross postage was nearly \$2,500,000; the railways received a million and a quarter, and the post-office something less. The second year there was an increase of 15.3 per cent—quite a large increase; in 1886-7 it was still larger, the increase being 24.3 per cent. Last year they handled 90,300,000 packages, and the postoffice made more money than the railways. They found that the 55 per cent they were giving the railroads was far too much compensation, and they hauled their own parcels—ten and one-half millions of them—by horse-van or by motor-van as far as from London to Liverpool or from London to Birmingham. The Great Eastern Railway Company there, with thousands of miles of lines, has found it possible to maintain what they call an agricultural parcels post. They take parcels up to 60 pounds weight at a rate of 8 cents for 20 pounds, or 24 cents for 60 pounds, and carry them anywhere on their lines, and deliver them by vehicle anywhere within three miles of a depot, free of charge. Now this is not only possible in Europe, but with the express companies in our own country for the foreigner. Is this thing worth urging here?

I will say that there is a New York league formed for this same purpose, and the National Grange has approved of our plan and passed resolutions instructing a committee to work for the parcels post. I have received a letter from the secretary of the New York league, asking what bill we Western men want in this matter, and whether Colonel Pope's bill suits us. Most of you who ride wheels know that Colonel Pope is president of the Columbia Bicycle Company. He is also president of the New York Postal League. His bill provides for the transportation of packages weighing up to 11 pounds, the rate for the latter being 25 cents, and that bill, for my part I thought of favoring, personally. There is another far more radical bill, making 100 pounds go for 25 cents; and I should like to hear an expression of opinion from anybody present in this regard. I have thought of the antagonism of the express companies to any proposed measure relative to a parcels post. John Wanamaker, when he was Postmaster-General, was asked why it was we had no parcels post. He said: "There are four great reasons," and he named the four express companies of the United States. And how they work I will tell you. I have an acquaintance who has been a State official of the State of California, drawing from \$3,000 to \$6,000 a year from the public treasury. I said to him: "Mr. So and So, won't you join our league?" "What is there in that for me?" he said. "In that for you? There is a cheaper letter post." "I don't want a cheaper letter post." "And a cheaper parcels post." "I don't want a cheaper parcels post." The thought flashed through my mind on the instant: "I know why you don't." I didn't say so, but I thought: "You hold a Wells-Fargo's frank." That man was just honest enough to put his hand in his pocket and pull out his wallet, stuffed with his franks, ten or a dozen, and showed me his Wells-Fargo's frank. He was receiving the pay of this State to look after your interests, and he was sold out to Wells-Fargo to attend to their interests.

PRESIDENT COOPER. The next question laid down on the program is the report of the Committee on Transportation, R. D. Stephens chairman.

REPORT OF COMMITTEE ON TRANSPORTATION.

MR. STEPHENS. Mr. Chairman, Ladies and Gentlemen: This report is signed by three members of the Committee on Transportation selected by you at the last State convention. I will state that Mr. Naftzger, before he was willing to go upon the committee as a member thereof one year ago, requested that a copy of the draft be sent to him or submitted to him for consideration about ten days before the meeting of the convention. I complied with that request and sent him a

copy of this report, with the request that if it was not satisfactory, if it did not meet with his approval, if there was anything left unsaid which he thought should be said, or anything said which he thought ought not to be said, it would afford me pleasure to receive such suggestions from him as he saw proper to give. I also mailed to Mr. Alden Anderson, our worthy Lieutenant-Governor, a copy with the same request. I have received no answer from either, consequently I am not able to say whether this report will meet with their approval or not. Silence, however, gives consent, they say; so, viewing it from that standpoint, they having had an opportunity of adversely criticising it, it would seem that it meets with their approval.

To the Honorable Chairman, and the Members of the Fruit-Growers' Convention:

Your Committee on Transportation begs leave to submit the following report:

We, the undersigned members of the Fruit-Growers' Transportation Committee, believe the private ownership and control of refrigerator cars used for shipment of California fruit to be inimical to the interests of the fruit-growers and shippers, as affording an opportunity for discrimination and favoritism.

All cars and other transportation facilities should be owned and controlled in every particular by the railroads, and all shippers should have equal facilities and be upon equal terms.

We, therefore, in this public way, record our earnest protest against the renewal or extension of existing contracts with the refrigerator car lines now engaged in this traffic, or the making of any similar contracts with any parties whatsoever.

We make further objection to the private ownership and control of these refrigerator cars, as having the effect to maintain what we consider excessive refrigeration rates.

The fruit-growers—those who are not engaged in the shipping and marketing business—are irrevocably opposed to the private ownership and control of the cars in which their products are shipped. They believe the time has come when they should be relieved from paying heavy tribute to this, the worst of all monopolies. Its power is so great as to subordinate all other interests, and if combined with the marketing, will be almost absolute. There is no power that can prevent such combination so long as private cars have the monopoly of carrying our fruit, with a tariff that brings in such an enormous profit as does the present tariff for refrigeration, for the reason that the large fruit companies are corporations, and there is no law through which the transfer and control of the stock of such corporations can be prevented.

This fact is mentioned for the reason that the railroad companies claim to be opposed to a combination of such a character, and we desire to show that the only way to prevent it is not to enter into a contract with the Armour Company, or any other car line, for the reason that it would be easy for the car line with which the contract is made, through the coercive power it would then possess, to soon gain control of fruit-marketing companies by having a majority of the stock transferred to it, or have it held in trust by those who would be subject to its will, which would amount to the same thing.

Refrigeration has been the bane of the fruit-growers of California. *It has done more to retard the progress and prosperity of this State than all other things combined, for the reason that it possesses the power to almost wholly, if not quite, control the marketing of its fruit products.*

Time Schedule.—In regard to the time occupied in the transportation and delivery of our fruit at Eastern destinations, we reiterate all that we said in our memorial upon this subject for the season of 1901, and earnestly pray that the time agreed upon in May of that year between the growers and the railroad companies—six days to Chicago and similar points, and nine days to New York and similar points—be put into full force for the coming season 1904.

The time the railroads agreed to make in fruit shipments in carload lots was, by the Southern Pacific, to Ogden 60 hours; by the Union Pacific and its connections, 84 hours to Chicago, of which 24 hours would be consumed from Council Bluffs to Chicago; a total of 144 hours, or six days. East of Chicago the time would be about 60 hours; the trains would leave Chicago in the afternoon of the day of their arrival there, and arrive in New York on or about 4:30 A. M., third morning, thus giving a nine days' service to New York and like destinations. That such time can be made is evidenced by what has been done in the past. Cars of fruit have been sold in New York on the ninth day after their shipment from California, and 11 days was almost the maximum time that cars were out before being sold in that market. And now it frequently happens that cars are out from 14 to 19 days before being sold in New York and like destinations.

California is a wonderful country. It has no equal anywhere. The one thing that makes it distinctively superior is its great and varied horticultural resources.

To thoroughly develop the fruit interests of California, put it upon a paying basis from a grower's standpoint and keep it there, it will be necessary to give its fresh-fruit shipments a reasonably fast regular time schedule, such as can be depended upon to deliver carloads at their respective destinations in the order they were shipped from the State.

Give to the fruit industry of California such a service and eliminate the private car lines, the thing which is paramount to all other things that can be done, and you promote the interests not only of the fruit-growers, but also of the State.

The adoption of a reasonably fast regular time schedule service in the transportation of our fresh-fruit shipments is second only to the elimination of all private car lines from the business.

We hold it to be unjust to the fruit-growers of California to place their property subject to the control of any private car line by giving to that car line a monopoly of carrying their products to market.

Profit for fruit transportation should be all included in the freight charge alone.

R. D. STEPHENS, Chairman,
ALEX. GORDON,
A. N. JUDD,

Members of the Fruit-Growers' Transportation Committee.

SUPPLEMENTAL REPORT.

Statistics showing Result of Shipping and Selling 3,623 Carloads in Eastern Markets in 1903.

The basis from which the estimate of the cost of production is made, is taken from a statement made by the Chamber of Commerce of Sacramento, California, in a pamphlet entitled "Fruit-Growing is California's Greatest Industry. Sacramento County is the very heart of its greatest production; possesses a climate unsurpassed for its equilibrium," issued in 1903, for the purpose of inducing people to come to California and build homes. In this statement the Chamber of Commerce says: "This tract (referring to Tract No. 74—10 acres—at Orangevale, owned by Col. H. Weinstock) is taken as an example simply because Col. Weinstock is a careful and methodical business man, keeps an accurate account of all details connected with the cultivation of his tract, and the figures chance to be available." The season referred to is 1901, since which time the cost of living and everything else has materially advanced.

In cost of production is included the cost of buying the land, improving it, planting it, and properly caring for it until it comes into bearing; then pruning, materials for spraying, compounding same and labor for applying, fertilizer and applying, water for irrigation and applying, plowing, cultivating, hoeing, picking, hauling, packing, crates, baskets, paper, nails, delivery at cars, loading, increase in cost of labor since 1901, and renewals, which means replanting and cost of again bringing to maturity, buying of implements, breakage and repairing of same, etc., not including interest on the capital invested.

MARKET.	No. Cars.	Gross Sales.	COST TO GROWER, NOT INCLUDING INTEREST ON CAPITAL INVESTED.					Profit	Loss	*Add Interest on Capital Invested at 8 per cent.	Profit	Loss
			Freight	Refrigeration	Commission	Cost of Production, etc.	Total Cost					
New York	1,219	\$1,889,139	\$438,475	\$136,228	\$97,200	\$592,664	\$1,264,597	\$146,442	\$21,900	\$162,127	\$50,461	\$88,046
Chicago	834	850,576	250,200	76,725	59,511	406,158	792,594	81,031	23,049	110,922	30,735	83,675
Boston	635	712,797	237,705	74,110	49,760	309,245	670,820	60,928	18,951	84,455	20,752	63,230
Philadelphia	284	287,418	95,040	29,975	20,135	128,568	273,718	22,920	9,220	35,112	6,340	27,752
Pittsburg	207	212,827	74,520	21,675	14,974	100,809	211,978	10,461	9,614	27,531	1,666	28,376
St. Paul	130	130,625	39,000	12,240	9,157	63,310	123,707	9,056	2,138	17,290	1,901	12,273
Minneapolis	103	100,887	30,900	8,560	6,586	49,674	95,720	7,753	2,586	13,699	2,241	10,773
Cleveland	68	71,498	24,480	6,517	4,973	33,116	69,088	4,462	2,048	9,044	1,175	7,809
Baltimore	50	54,030	18,000	5,545	3,750	24,350	51,645	3,814	1,429	6,650	1,313	5,578
St. Louis	75	78,661	22,500	6,595	5,453	36,525	71,073	9,486	1,898	9,975	3,412	5,799
Cincinnati	38	39,034	13,680	3,577	2,694	18,506	38,457	2,794	2,217	5,064	1,139	5,716
	3,623	\$3,927,492	\$1,244,500	\$381,747	\$274,193	\$1,762,955	\$3,663,397	\$359,147	\$95,050	\$481,859	\$121,165	\$338,927

* Interest at 8 per cent is added, because in many cases the growers are in debt, and all small holders have to pay that rate at least, and if they are not in debt, they are certainly entitled to interest on their capital.

NOTE.—This table gives a recapitulation of a great mass of statistics, compiled by this committee; and which they have had printed in pamphlet form. Copies may be had on application to the Commissioner of Horticulture at Sacramento.

The following table shows the number of cars shipped from June 23d to October 30th, both dates inclusive, and the number of cars sold from July 6th to November 13th, inclusive. Fourteen days are allowed for time occupied in transit, which is about the average time it took to deliver cars at destination. This shows a discrepancy of 3,110 between the number of cars shipped and the number of cars reported sold:

Cars Shipped.	Cars Reported Sold.	Cars Not Accounted For.	Cars Shipped.	Cars Reported Sold.	Cars Not Accounted For.
June 23..	July 6..		Aug. 15..	Aug. 29..	
" 24..	" 7..		" 16..	" 30..	
" 25..	" 8..		" 17..	" 31..	
" 26..	" 9..		" 18..	Sept. 1..	181
" 27..	" 10..		" 19..	" 2..	
" 28..	" 11..		" 20..	" 3..	
" 29..	" 12..		" 21..	" 4..	
" 30..	" 13..				
July 1..	" 14..				
" 2..	" 15..		" 22..	" 5..	
" 3..	" 16..	224	" 23..	" 6..	
" 4..	" 17..		" 24..	" 7..	
" 5..	" 18..		" 25..	" 8..	209
" 6..	" 19..		" 26..	" 9..	
" 7..	" 20..		" 27..	" 10..	
" 8..	" 21..		" 28..	" 11..	
" 9..	" 22..				
" 10..	" 23..		" 29..	" 12..	
" 11..	" 24..		" 30..	" 13..	
" 12..	" 25..		" 31..	" 14..	
" 13..	" 26..		Sept. 1..	" 15..	189
	" 27..		" 2..	" 16..	
" 14..	" 28..	39	" 3..	" 17..	
" 15..	" 29..				
" 16..	" 30..		" 4..	" 18..	
" 17..	" 31..		" 5..	" 19..	
			" 6..	" 20..	
" 18..	Aug. 1..		" 7..	" 21..	270
" 19..	" 2..		" 8..	" 22..	
" 20..	" 3..	154	" 9..	" 23..	
" 21..	" 4..		" 10..	" 24..	
" 22..	" 5..		" 11..	" 25..	
" 23..	" 6..				
" 24..	" 7..		" 12..	" 26..	
			" 13..	" 27..	
" 25..	" 8..		" 14..	" 28..	
" 26..	" 9..		" 15..	" 29..	145
" 27..	" 10..		" 16..	" 30..	
" 28..	" 11..	336	" 17..	Oct. 1..	
" 29..	" 12..		" 18..	" 2..	
" 30..	" 13..		" 19..	" 3..	
" 31..	" 14..				
Aug. 1..	" 15..		" 20..	" 4..	
" 2..	" 16..		" 21..	" 5..	
			" 22..	" 6..	105
" 3..	" 17..	221	" 23..	" 7..	
" 4..	" 18..		" 24..	" 8..	
" 5..	" 19..		" 25..	" 9..	
" 6..	" 20..				
" 7..	" 21..		" 26..	" 10..	
			" 27..	" 11..	
" 8..	" 22..		" 28..	" 12..	
" 9..	" 23..	243	" 29..	" 13..	123
" 10..	" 24..		" 30..	" 14..	
" 11..	" 25..		Oct. 1..	" 15..	
" 12..	" 26..		" 2..	" 16..	
" 13..	" 27..				
" 14..	" 28..				

Cars Shipped.	Cars Reported Sold.	Cars Not Accounted For.	Cars Shipped.	Cars Reported Sold.	Cars Not Accounted For.
Oct. 3-- } " 4-- } " 5-- } " 6-- } " 7-- } " 8-- } " 9-- }	Oct. 17-- } " 18-- } " 19-- } " 20-- } " 21-- } " 22-- } " 23-- }	100	Oct. 17-- } " 18-- } " 19-- } " 20-- } " 21-- } " 22-- } " 23-- }	Oct. 31-- } Nov. 1-- } " 2-- } " 3-- } " 4-- } " 5-- } " 6-- }	125
234	134		203	78	
" 10-- } " 11-- } " 12-- } " 13-- } " 14-- } " 15-- } " 16-- }	" 24-- } " 25-- } " 26-- } " 27-- } " 28-- } " 29-- } " 30-- }	157	" 24-- } " 25-- } " 26-- } " 27-- } " 28-- } " 29-- } " 30-- }	" 7-- } " 8-- } " 9-- } " 10-- } " 11-- } " 12-- } " 13-- }	122
265	108		193	71	
			Total.. 6676	3566	3110

The above statistics are given in order that no one may be misled in regard to the true condition in which the fruit industry of the State is, at least so far as fresh-fruit shipments are concerned.

Fruit-growing is the most hazardous of all farming pursuits, for the reason that it costs so much and is menaced in so many different ways by so many different things; such as early and late frosts, heavy winds, which sometimes blow off from ten to thirty per cent of the fruit; early rains, insect pests, blights of different character, and new and mysterious diseases that no one knows why they appear nor any remedy for them.

By referring to the figures herewith given, it will be seen that the cost of growing and marketing often exceeds the gross sale of the fruit.

From statistics gathered by County Assessors, and in other ways, it is shown that there are many thousands of trees and vines planted that are not yet in bearing. In some counties the increase will amount to nearly, if not quite 33 per cent, and when this new acreage comes into bearing there will have to be a very radical change made for the better in existing methods of transportation and marketing, or a heavy financial loss to the growers will result.

That relief must come to the fruit-growers of California is evidenced by the following figures:

Gross sale on 3,623 cars this season	\$3,927,492
Freight	\$1,244,500
Refrigeration	381,500
Commission	274,193
Cost of production, etc.....	1,762,955
	<u>3,663,148</u>
	\$264,244

The result gives an average profit of about \$72 per car. When interest is added on the capital invested, the result will be over \$100 loss per car to the growers.

A. GORDON.
A. N. JUDD.
R. D. STEPHENS.

REMARKS ON TRANSPORTATION, ETC.

By R. D. STEPHENS, OF SACRAMENTO.

Transportation and marketing are the important questions to be considered in connection with the fruit-growing interests of the State. Transportation is the most important of all things to be considered in efforts to give stability to the fruit industry of California; in fact, it is the key to the situation. A system of transportation should be arranged and adopted by the railroads that will result in placing upon an equality all parties interested in marketing our fruit products. No man or combination of men should be given an opportunity of controlling markets at will, for, in such an event, there can be no guarantee that prices will be steady; on the contrary, it will be in the power of those in control to give such values as they please, and therefore prices may fluctuate from year to year as will best serve the interests in control. In other words, we would then, in all probability, have a rotation in years, regarding prices—one fairly good year and about two years of low prices, so as to take away all that the growers might have made in the year of good prices in order that they—the growers—might be kept in subjugation by being made dependent upon those who are handling their products for the necessary financial assistance to continue in their vocation of fruit-growing. Such a condition would certainly give to those in control great power, for the growers could not get financial aid from any other source, because their orchards and vineyards would not be considered good security.

No better proof is needed that such would be the case than the fact that most, if not all, of our savings banks and capitalists will not now, even in this prosperous year—so termed by those who have arrogated to themselves the sole right to market the fruit products of California to the utter exclusion of all others—loan money on orchard or vineyard property where it stands alone, unless the land could be made to bring a profit by utilizing it for other purposes.

Some of the best orchard property, so considered, in the State has been mortgaged for years and is yet heavily mortgaged.

This fact raises the question, why should such a condition exist if fruit-growing has been a paying business for the producers?

The future of the fruit-growers of California is anything but assuring, for the reason that there is a vast acreage, principally vineyard, that has not yet come into bearing, which makes things look bad for the growers.

In the last year the price of wine grapes has been all the way from twenty-five to fifty per cent lower, and the growers have to wait six months, and in some instances more, for full payment, when before, it was cash on delivery.

This reduction comes from the profit column of the growers, for it costs more to grow the grapes now, on account of the increase in the cost of labor and living expenses, etc.

The heavy reduction in the value of wine grapes was wholly unexpected, and came as a great surprise to the growers and others who were, through newspaper reports and boom literature, led to believe that no safer or better way of investing their means could be suggested than to plant vineyards, and yet, in less than one year, at one stroke, from fifty to seventy-five per cent of their former profits were taken from them. The slump in wine-grape values will greatly militate against the prosperity of the State in the near future.

The varied conditions that have existed regarding the wine-grape interests in California apply with even greater force to all lines of horticultural interests.

The trouble with all of them is, there is no stability in any of them; no one can tell, except those who are handling the fruit products of the State, what one year will bring forth regarding values, because as things are now the *growers*, at least ninety per cent of them, are *wholly* eliminated from having a voice in the disposition of their products. The growers are compelled to deliver their shipments, at their own expense, at the car door, and there their rights end. They have no right to say where it shall go, or into whose hands it shall be delivered to sell. In fact, at the car door they are compelled to surrender all right of control.

Under such conditions, is it any wonder that some become prosperous and rich, in some instances millionaires, at the expense of the growers?

The question, the one all important to the fruit-growers of California, the upbuilding of the State, and the prosperity of its people, is, What can be done, if anything, and by whom, that will better the existing condition in regard to the transportation and marketing of fruit shipments East?

This is not a difficult question to answer. It is so plain and simple that with a few moments' consideration, anybody with the slightest conception of business affairs should be able to answer it.

At this time, and until other transcontinental roads come into the State, the only source from which relief can come to the fruit-growers of California is the Southern Pacific Company, and if that company can not—for any reason such as lack of facilities for giving a better time service, and a good deal better service, too, than has been given in the past three years, and a lower transportation rate, including refrigeration and the elimination of all private car lines from the service—give relief, then the fact should be made known, so that efforts could be made in other directions to better the condition of the fruit-grower of the State.

In speaking of the Southern Pacific Company, I wish to say that there is no member of the Transportation Committee—and it is to be hoped there is no member of this Convention—who is actuated by any feeling of prejudice or desire to do or say anything for the purpose of annoying the officials of the company. On the contrary, we desire to be on the most cordial and friendly relations with the officials of the company, for our only hope for relief is through them, and in duty to ourselves and to them we realize the necessity for stating facts, plain, simple facts, facts backed by indisputable evidence.

We know that the greatest ignorance has prevailed in the minds of all classes in regard to the cost of growing fruit in California. This is explained in part by the fact that the cost of growing fruit has greatly increased in the past few years. Formerly orchards were not menaced by any insect pests or blights of any kind. Box material and supplies of all kinds have advanced in price from 30 to 40 per cent. For instance, crates that formerly cost $4\frac{1}{2}$ cents now cost the small growers 7 cents, and in carload lots $6\frac{1}{2}$ cents. Labor is higher and the cost of living is more. A good spraying outfit, something unknown in the early history of California, costs from \$380 to \$475. Then the materials for spraying, their mixture and application, are heavy items of expense to the growers, and I might continue enumerating items of expense, such as the thinning of the fruit on the trees, which must be carefully and systematically done to make the work successful.

Home consumption can not dispose of the fruit grown in this State at any price, nor under any circumstances, and for this reason we have to seek other markets for our fruit, and the only ones accessible are those on the Atlantic slope, to be reached only over the lines of the Southern Pacific Company and its connections. Therefore, we look to it for protection.

That the Southern Pacific Company possesses the power to remedy many of the existing evils which are now menacing the fruit industry of California can not be gainsaid, unless it is under the influence of a power greater than itself. We feel that the Southern Pacific Company should do everything that it is possible for it to do, to protect and foster the fruit industry of the State, for the reason that it has done all in its power to induce people to come here and invest their capital in fruit-growing.

The moment that a fruit tree or a table-grape-bearing vine is planted in California it is mortgaged to the Southern Pacific Company, and it also carries with it the land upon which it is planted, to which we are not making any particular objection at this time; but we do, in the most emphatic manner it is possible to conceive, *object to having the mortgages transferred to any other interest*, such as private car lines.

Give to a private car line a monopoly of carrying the fruit products

of the State, and you give to that car line the power to manipulate the markets for the fruit at will, through the fact that at any time it pleases it can go into the fruit-marketing business and charge to all competitors, or to those it wishes, such a tariff for refrigeration as will bring to it a large profit, while it carries its own freight for nothing; therefore, the profit it makes by carrying its competitors' fruit acts the same as a rebate, in other words it is a discrimination made between shippers.

No competition can last long under such circumstances, and when once an interest is under control there is but one result, it is inevitable: the power in control will make everything possible, regardless of consequences resulting to others.

If fruit grown in California is as profitable as it is claimed to be by some, why is it that a large per cent of the orchard property can be bought for a great deal less than it cost? Why is it that mortgages on orchard property that has been in bearing for years remain unsatisfied?

Is it not better for those following any vocation, and for the community in which they live, to be prosperous and contented, and therefore willing to invest a reasonable proportion of their profits in improvements and the comforts of life, than to have them in an impecunious condition and consequently unable to do those things?

The hope for the fruit-growers of California lies in their ability to show to the Southern Pacific Company that the conditions surrounding their interests are not such as they should be to place them in such a position financially as will make them of value to the State and add to its prosperity.

This can be done only by calling the attention of the Southern Pacific Company's officials—those who have it within their power to grant relief, if such a thing is possible—to facts of such a character, that if they will give a little of their time to investigation of the same, they can not fail to be convinced that something must be done to protect the fruit industry of the State.

If, after a thorough investigation, these officials can not see their way clear to grant the relief so much needed, then it will be better, far better, to let all the facts bearing upon the matter be made public, so that those who have not yet invested in fruit-growing may be admonished not to do so and thus prevent them from becoming paupers and pauperizing others.

Let us hope that much good may come from your labors here to-day and that your efforts will materially assist in placing California—the country possessing more varied and richer resources than any other country of equal area in the world—in the position it seems was designed for it by the Creator.

PRESIDENT COOPER. What disposition will you make of the paper you have just heard read?

MR. MARKLEY. I move that it be adopted and filed.

MR. STEPHENS. Mr. Chairman, I beg pardon; there is one thing I forgot to mention and should mention, because it is made a part of the report. Here is a copy of a statement which took the typesetter three weeks to set up and which required a great many more weeks to figure out. It is almost an absolutely correct record of every car of fruit shipped out of the State of California between the 23d day of June and the 30th day of October. It is also a correct report, as given by the California Distributors, of the sale of every car that was shipped between those dates and sold up to November 13th. I desire to call your particular attention to a tabulated statement there, with the double mark in the center, showing the number of cars shipped between those dates, the number of cars reported sold, and the number of cars that were lost in some way. There are unaccounted for 3,110 carloads of fruit that were sent out of this State between those dates. I desire to call your attention particularly to that, because it is significant; it shows more than could be said in a volume of a thousand pages, from the standpoint of the business man. The question is, what became of these 3,110 carloads? Some may be accounted for by shipments made by persons who ship outside of the Distributors, but, comparatively speaking, the number of cars was very small indeed as compared with the whole number of cars shipped. Now, this statement gives the fruit sales in every auction city on the Atlantic side, by weeks, so that by perusing it you can see what period there appeared to be good sales and the period at which there were poor sales. The compilations were made in that manner for the purpose just mentioned, and also to avoid errors in additions, and so forth. You will find that these columns will balance. Another thing regarding this statement is that the freight, the refrigeration, the cost of production, etc., are shown separately, interest not included. The profit or loss, as the case may be, is shown up to that time. Then afterwards the interest upon the investment, and the necessary amount required to bring the orchard or vineyard into bearing, are taken into consideration and added to the loss or subtracted from the profit, whichever it is, and then it gives you the result, showing whether the fruit was marketed at a profit or not, including interest. I make these explanations so that you can understand this better.

MR. BERWICK. Mr. Stephens, were those 3,110 cars unaccounted for sold at private sale?

MR. STEPHENS. You must guess at that. I intend to discuss the question after awhile, and possibly I may throw some light upon it.

PRESIDENT COOPER. Now, there is a motion to accept the report as read, previous to the statistical report. I wish to ask the mover whether he wishes to include the report and also the statistics.

MR. MARKLEY. Yes, sir; the statistics are submitted as a part of the report signed by the members of the committee.

PRESIDENT COOPER. Then the motion is before the Convention for the adoption of the report as previously read, and the statistical report also as a part of the committee's report.

Carried.

REPORT OF COMMITTEE ON LOCAL ASSOCIATIONS.

The following report of the Committee on Local Associations was submitted by its chairman:

To the Honorable Chairman and the Fruit-Growers' Convention:

Your committee to whom was referred the subject of the formation of local co-operative associations, to centralize for the conduct of the Growers' Co-operative Agency in San Francisco market, begs leave to report as follows:

Efforts have been made to secure such organizations at several points most interested in securing fair market conditions there, but up to the present time none have been found with enough local initiative to secure such organizations except upon the Sacramento River. This association has successfully conducted the large business of the Growers' Co-operative Agency during the past season in San Francisco, and urgently invites every locality interested in that market to form a local association to become a branch of the Growers' Co-operative Agency, thus joining them in the conduct of its affairs.

Your committee is convinced that abuses of no kind can be very effectively remedied without the concerted action of those who suffer from these abuses, and such concerted action is best secured by local organization of growers. They therefore recommend the continuance of the effort to secure such organizations.

Respectfully submitted.

A. R. SPRAGUE,
Chairman of Committee.

On motion, the report was adopted and ordered filed.

MR. BERWICK. Mr. Chairman, I have a resolution here which I will be pleased to read to the Convention. It is drawn up by a fruit-grower whom many of you know, Mr. E. F. Adams.

Resolved, That in view of the disclosures of the boycotting methods of the San Francisco fruit commission men, this Convention demands of the Governor and Board of State Harbor Commissioners such rigid enforcement of the Woodward Act as shall insure to every producer of perishable products who desires it, the opportunity to freely sell his produce on the State property in San Francisco, unhampered by any boycott to which others making use of the State property are parties.

Referred to Committee on Resolutions.

MR. SPRAGUE. Mr. Chairman, I should like to discuss the two subjects last before the Convention.

PRESIDENT COOPER. It is in order.

DISCUSSION ON CO-OPERATIVE MARKETING.

MR. SPRAGUE. For years it has been known that it was impossible for the growers of products for the San Francisco market to get satisfactory service in that market; that there were many abuses to which that traffic was subject, and excessive charges for the work, and during the last several sessions of this Convention there has been an effort to secure the organization of the growers to such an extent as would enable them to remedy those evils. As a result of this, the committee appointed by your Convention secured the organization of the growers along the Sacramento River for the purpose of marketing their products in San Francisco. It was late before this action was taken on the Sacramento River, too late for similar action in other localities interested in the San Francisco market. Therefore, the Sacramento River growers were obliged to attempt to conduct that work alone. They met, early in the season, with the determined opposition of the commission merchants' association, and so bitter was this opposition that it virtually forced them out of business for the time, and they were unable to sell their products. They appealed to the other portions of the State interested in that market to join them in this undertaking—parts of the State shipping heavily to San Francisco. It was endeavored to interest individuals engaged largely in shipping to that market, and they endeavored to interest the people of San Francisco who were suffering by reason of excessive charges, but it was all in vain; no efficient interest could be created, either among the growers or among the people of San Francisco, and, as a result, this organization, by the first law of nature, which is self-preservation, was obliged to refrain from continuing the fight on its own behalf and alone in San Francisco. It is now doing a business in San Francisco, and has been during the past season, which has not involved the serious antagonism of the commission merchants. Now then, what can be done in the face of such a situation as this? We are confronted with the fact that the products of our farms are sold to the people of San Francisco at excessive rates to the consumers, thereby greatly checking the consumption of those products, and that is a very serious factor. In former times you know that the commission merchants, unless they could secure a certain, definite price, a somewhat high price, would throw into the bay that which they could not sell, rather than lower the price and sell a very much larger volume. This is common history. Now, that is contrary to the welfare of the grower tributary to that market. There should be a stable, normal market price, which should return a fair compensation to the growers. That is the best condition which they can seek in San Francisco. A large consumption is what we want, not a small consumption with exceptionally high prices occasionally. The people of San Francisco, as we

learn from the metropolitan journals, are crying out in protest at this situation and frantically beating the air for some aid. We are appealed to here, and it is a question to be considered soberly, how can this aid be given? As in other lines of trade or commerce, the farmers or growers, when they propose to do business, must get ready to do business, submit to certain arrangements with each other, and make certain agreements by which business shall be done. Now, in our judgment the fundamental thing in the way of getting ready to do this business, to reform the situation at San Francisco so as to do any business which we deem it essential that we should do, is to get ourselves organized locally in those districts in which it is of the greatest interest to have that business well done. Now it is difficult to find, in the different localities, men who are sufficiently self-sacrificing to devote themselves to the public weal to such an extent as to step forward and attempt to secure such local organization, but that is the point which is absolutely essential. If there can not be found, in the various points tributary to the San Francisco market, men who are willing to give their time and, if necessary, some of their money to effect this work of organization, these abuses will go on, and all our resolutions and all our attempts to regulate them by act of the Legislature will fail. Combinations never have been and never will be controlled by law effectively. It must be by organization to enable us to do the business ourselves which we wish well done. Now, gentlemen, I appeal to you to see that these organizations are formed.

MR. JUDD. Mr. President, it seems to me another horn of the dilemma might be taken hold of. You understand how difficult it is to get an organization in a locality where there is a diversification of markets and of products and vast numbers of people differing on the subject of co-operation. It seems to me that the Sacramento River growers, for instance, should organize themselves, as they have done already, and let them be their own commission merchants. I talked the matter over considerably last year with our people, and it seems that they are anxious for this proposition, but it is difficult of accomplishment. In the strawberry business, for instance, the commission men themselves are in some respects largely interested as owners, and other owners are hampered or tied up to such a degree that it is difficult, as the gentleman who just spoke has said, for them to combine without sacrificing themselves. Now, I am confident that if the Sacramento River growers will organize themselves, as I said before, as a commission organization for one year, just to demonstrate to the growers all over the State the practicability of co-operation, and let us send to them a certain amount every day to sell, on consignment, as we do to commission houses—say they want 50 or 60 crates of strawberries or 100 or 150 boxes of apples, or whatever it may be—it seems to me that

they would be willing to sacrifice in a way where necessary, and if they will accept a situation of that kind I believe every locality in California will keep them flooded with the produce they want and let them sell it on commission. Now I would like Mr. Sprague to consider that proposition and answer it.

MR. SPRAGUE. Mr. Chairman, in reply to that I will say that I am astonished, in the first place, to see how absolutely necessary it is for co-operative organizations to advertise. What Mr. Judd proposes is exactly what the Sacramento River growers have been doing in the past two years. In the past season they have conducted a business, running into hundreds of thousands of dollars, very successfully, in the San Francisco market, realizing, as some of the growers present will testify, better prices than the commission merchants themselves realized for the products sent them. They have a very fine business to-day and a very fine business location, and they are soliciting your consignments, for the purpose of making themselves strong, so that the situation can be properly controlled. They ask all of you, everywhere, to forward such of your consignments as you wish to come to the San Francisco market, to their house, The Growers' Co-operative Agency—that is the name of the firm—and whenever you get ready in your locality to organize a local association and send a representative to help conduct that business, you will be welcomed with open arms. The address of the Agency is 425, 427, and 429 Front street. It is very necessary that they should have consignments throughout the year—potatoes, onions, citrus fruits, if you have any, and strawberries; during the summer the Sacramento Valley, of course, furnishes very large supplies of fruit and produce, but during the rest of the year they have to depend on the products that come to the San Francisco market from other sections of the State. Throw the weight of your influence toward that institution, and, my word for it, gentlemen, the evils of the San Francisco market will be corrected, but they can not be in any other way.

DISCUSSION ON TRANSPORTATION.

PRESIDENT COOPER. If there are any ladies or gentlemen present who wish to discuss the report of the Committee on Transportation, it is now in order for them to do so.

MR. JUDD. Mr. Chairman, we know that this State is the most completely overburdened with high transportation rates and the poorest service of all the United States. In some places where we have succeeded in getting an electric line or something of the kind we have got a little reduction, affording some competition in our own State, but what we want is to compete with other States. A little while ago you read in the papers, relative to the investigation of the affairs of the

Porter Brothers Company, that their rebates from the refrigerator car lines were some \$1,800,000, and that seems to be apropos to this report. If it is possible that a thing of that kind can exist in this country, where an individual that has charge of the business of a fruit company can take a rake-off of over a million and a half on refrigeration alone, there is something remarkably "rotten in Denmark." You can readily see the point raised in that report. If we don't crush this private car-line proposition it is simply going to crush us. But, to take up the proposition of publicity. Let us have reports every month or two. Let us know the freight rates on all fruit products on the Great Northern lines, the Northern Pacific, the Canadian Pacific, and all those lines. Let the public know exactly what they are paying when they ship. It is certain to my mind that the Eastern lines get a great deal less than their pro rata for the distance they haul. Don't be afraid to tell the public whether we are getting the worst of it as compared with Washington and Oregon. Last year they were shipping apples from Oregon by the O. R. & N. down to Denver and by the way of Deming, clear back up to Phoenix, 4,280 miles, for a dollar rate—no, the rate was 97½ cents; and for shipping apples from Watsonville to the same point, 831 miles, the rate was \$1.08½. There is the difference. Publicity, if anything, is what talks. Let the public know the exact facts in regard to transportation rates, and it will "shake the dry bones" all over the country.

MR. STEPHENS. Mr. Chairman, and gentlemen of the Convention: I am speaking in advocacy of the adoption of the report of the Committee on Transportation. I wish to say right here, in our locality, and I presume it prevails in all localities, with the exception of this, probably, where you are making raisins out of the products of your vines, that you can't go to a savings bank and borrow one dollar upon your orchard and your vineyard property unless it is backed by other property that would be sufficient to satisfy a deficiency judgment. The savings banks' treasuries are teeming with hundreds of thousands of dollars ready to be loaned, and the directors of the banks are anxious to make loans upon good security, but orchard property and vineyard property are not regarded as good security by them. If the fruit-growing industry of California—particularly the growing of deciduous fruits—were prosperous, would the banks and the capitalists hesitate to loan their money on the property? By no means. There may be some savings banks that will make these loans, but you can not go into the city of Sacramento and borrow from the Sacramento Savings Bank, which is the wealthiest one there, on these properties, unless they are backed up by other property which would be regarded as good security; with this one qualification, that the land upon which your vines or your trees are growing can be utilized in some other

way that will bring profit and consequently give value to the land when it is denuded of the fruit trees or vines.

Now I desire to make a few remarks, brought to mind by statements made on the floor here. With all due deference and respect to those who are in charge and control of the California Fruit Distributors, I wish to say that in this tabulated statement presented in connection with the report of the Committee on Transportation, where there is shown a deficiency of 3,110 cars unexplained, it is possible the car line may be interested in the marketing of fruit. Now if it be true that the Armour Company is in the marketing business—I am not saying that it is, but I believe it to be—if through the power of the Distributors, which in my judgment it dominates, it can select markets and protect those markets, where are those 3,110 cars, less possibly 150 or 250 or even 500 that might be shipped by other institutions? Who sold them, and what prices did they bring? Nobody knows, excepting those who sold them. There is the wrong to you. Agents are sent out to buy f. o. b. from the growers, who are offered, and the magnificent (?) offers in many cases accepted, 30 cents a box for their plums and from 40 to 50 cents a box for their pears, and that is why last year was such a disastrous year to the growers. The fact that Porter Brothers had just been reported as being bankrupt, and there being no possible competition, as they believed, they felt it was discretion on their part to accept those prices, and a very large amount of fruit on the Sacramento River, in Placer County, and other localities, was purchased by the Earl Fruit Company, shipped East and sold in the name of the grower, so that when you read the name of John Smith, from Portland, or any other place, receiving \$4 a box for his pears, you said: "What a magnificent price Mr. John Smith is receiving for his shipments"; and when plums were reported sold at from \$1.75 to \$2: "Why, what a magnificent profit Mr. Edward Berwick is making on those shipments," when Mr. Edward Berwick had previously surrendered all proprietorship to the Earl Fruit Company. These are facts, gentlemen. The little tabulated statement issued last season attracted a great deal of attention in the railroad offices and, no doubt, in those of the Armour Company and of others interested in making their millions out of you gentlemen. They hooted at the statements at first and said they were incorrect. I went to the State Board of Trade and invited investigation. Twice, personally, I visited the California Promotion Committee and solicited those in power there to take the question up, for the reason that if the statements were erroneous it was the duty of those trying to induce people to come here and invest their means to establish the fact that they were wrong. They intimated to me that they would do it. Two or three weeks passed and I heard nothing from them, when I formally addressed a communication to the California Promotion Committee, submitting

to them all documents bearing upon the subject, and two weeks afterwards I received a communication from them stating that they had concluded not to take up the question. One day, as I was passing by the Chamber of Commerce of Sacramento, I looked in at the door and saw a lot of gentlemen there, directors of the Sacramento Chamber of Commerce, and I asked them to take up the question. They didn't understand it, but they said they would. I dropped in two or three times and they were very busy, but they promised to take it up. I said to them: "Gentlemen, I want you to invite any railroad official, or as many as you deem proper. I want you to invite Mr. Robert Graham and Mr. C. B. Dewees and Mr. Buck and Colonel Weinstock—everybody connected with this matter; bring them here and we will discuss the matter and we will see whether the statement will hold water or will not." After a lapse of four months the Sacramento Chamber of Commerce had communicated with these parties, and they would not respond; they said they did not want to meet Mr. Stephens, they didn't care to be insulted! I don't believe I ever insulted a man or woman in my life, and I assured them that no one would be insulted; that all we wanted were the plain, simple facts in the matter. The Chamber of Commerce made a report of this kind: They took all the documents submitted through the Transportation Committee by the fruit-growers of the State and figured on them, all these interested parties, for four months, and they denied to you gentlemen and ladies the right of having an insight or look at their figures and passed judgment upon what was filed with them by the railroad, the Armour Company, and the Distributors, but would not give you an opportunity to see what they were. I knew when the directors of the Chamber of Commerce were going to meet, and I was there and rose to speak, and the President said to me: "Mr. Stephens, you can't talk before this Chamber of Commerce. I ain't going to let you." I said: "That is all right, Mr. Seymour, you will have the nicest time in the world keeping me down. I am going to try to talk." He said: "I'll not let you"; but there was a member of the directorate who moved that I be given a hearing of ten minutes. I occupied that ten minutes. I have here a booklet—a pamphlet issued by the Sacramento Chamber of Commerce. I listened to their report first, and they verified every charge made in the report of the Committee on Transportation. They admitted that refrigeration was less in the territory in Oregon north of Portland and in the whole State of Washington, because the railroads there furnished their own refrigerator cars; but when it came within the territory which the Southern Pacific dominated, then the rates went up. They virtually admitted everything charged in the report, but denied one thing, which I hoped they would, that the estimate of cost to the grower was too high, and they quoted from Colonel Weinstock's statement, for

the reason that he is a very careful business man. According to Colonel Weinstock it cost \$422 and some cents an acre, current expenses alone—not including interest upon the capital requisite to buy the land, to plant it, to build houses, and to get the things necessary to have in order to live comfortably—for the year's expenses. This opened my eyes. I didn't know, and I don't believe a man in the State of California can tell, what it costs to produce each box of peaches, plums, or pears, or anything else shipped, because the cost varies, and I have endeavored to make an average estimate. I have added here the increase of wages since 1901, and we all know that there has been a material increase. I have also taken into consideration the cost of renewals. No doubt Colonel Weinstock's figures are correct. I supposed those figures referred to f. o. b. sales, and I said: "Colonel, I suppose the sales you refer to are f. o. b. sales?" "Oh, no," he said. I then asked: "Where is your account of the cost of transportation, your freight and your refrigeration, your loading charge, your commission, and so forth, where are they?" "Oh," he said, "I just take them as they come to me from the jobber." Now what he paid I don't know, nobody knows. I do know, however, that he was president of the Shippers' Association, and they might pay some regard to his being president of that association, and his commission might not be so high, his loading charge might not be so high, and other things might not be so high.

I don't want to detain you, but there are one or two things to which I want to refer. If we have two railroads, enough money has to be made to support them, and the producers of the country traversed by those roads have to be given an opportunity to do something, to produce something which the roads can haul and charge for, and the more roads you get in the better your condition will be in regard to transportation charges, as is evidenced by the whole country here excepting this territory from Tehachapi to the Siskiyou Mountains. Even in southern California, according to a newspaper account, the orange-growers of southern California boarded the private car of Mr. Harriman when he was down there, and sought an interview with him, regarding time of shipments in transit, etc. They were referred to certain other officials of the road, to whom they refused to be referred, as they had talked with them until they were satisfied that they could get no relief from them, and therefore wanted to discuss the question with Mr. Harriman. He agreed to consider it, and they then asked for a reduction in the transportation rate. His answer was: "Not until the courts compel us to do so." They also said that they would ship all their oranges over the Santa Fé, which was making better time than the Southern Pacific, if they could; but here came in this combination which exists regarding the shipping and marketing of citrus fruits, to divide the

traffic equally between the two roads, and therefore those who were listed upon the Southern Pacific route could get no relief. I wish to say that the Santa Fé is dominated by the Southern Pacific in much of the territory through which it runs, as is evidenced in many ways.

FRUIT PACKAGE LABEL LAW.

MR. JUDD. Mr. Chairman, I have a resolution here on another subject that I would like to introduce. It is as follows:

WHEREAS, The label law of the State of California, passed by the Legislature March 6, 1903, providing for marking on fruit boxes or packages the name of the vicinity where fruit is grown, is insufficient, as it permits too much latitude and does not give the publicity intended by the promoters of said law; therefore, be it

Resolved, That said law be amended so as to read after the words "where grown" the words "the name of the packer and his address and where possible the name of the grower."

MR. JUDD. The reason why I think that this is necessary is from the fact that in our locality, where that law has been enforced, I am an unfortunate inspector, and I find that notwithstanding the fact that the boxes, packages, or sacks are marked with the name "Watsonville, Santa Cruz Co., Cal.," or: "This fruit was grown in Santa Cruz and Monterey Counties," it falls short of the intention of the law. If you put on the grower's name, where practicable or possible, you touch the grower's pride; you place upon him the responsibility of seeing that that fruit shall be in prime condition. You place also upon the packer the responsibility of packing it and putting it on the market in proper condition. That is the reason why I suggest that this amendment to that law be recommended by this body. As you understand, there is considerable opposition to the law, and we have a test case coming on where some of the big exporters are fighting it, ostensibly on the alleged ground of its unconstitutionality. If the present law, with this proposed amendment, should go into effect all over the State, it would increase the markets and increase the number of buyers by the hundreds, simply because they will see on every box, on every package, the name of the packer and perhaps the name of the grower. The purchasers, if they feel so disposed, can deal direct with the packer or grower. When the fruit lands in Liverpool, for instance, and the buyers see that it is a particularly fine brand they will write to the packer or grower for further shipments. It will be an incentive to the packer and to the grower to improve the pack, and it will better the fruit industry all along the line, will make a wider market, induce greater consumption, and increase the number of buyers, which we need most of all. Where any individual or firm virtually has the monopoly of any market, exorbitant rates are charged and only the wealthiest can consume the product. It seems to me that the amendment proposed is essen-

tial for the purposes stated: to increase the markets and also the pride, the patriotism, and the responsibility of the grower and packer, as also to increase the number of buyers.

PRESIDENT COOPER. The amendment is referred to the Committee on Resolutions. We will now take a recess until this evening at 7:30 o'clock.

EVENING SESSION—FIRST DAY.

TUESDAY, December 8, 1903.

The Convention was called to order at 7:30 o'clock. President Cooper in the chair.

PRESIDENT COOPER. Hon. Alden Anderson, having had to go East, could not be present, but he has sent his report, which is in the hands of the Secretary and will be read by him.

Report read by Secretary Isaac.

REPORT OF CALIFORNIA FRUIT DISTRIBUTORS.

Deciduous Fruit Shipments for the Season of 1903 by the California Fruit Distributors, with an Outline of Plan of Operation of the Company.

The first carload of deciduous fruit for the season of 1903 consisted of a fruit express car of cherries, and was shipped from Vacaville, Solano County, May 9th. The last car (apples excepted) consisted of grapes, and was shipped from Concord, Contra Costa County, November 21st.

As will be seen from the accompanying statement, the shipments of this year exceeded those of last year by several hundred carloads, just as the shipments of last year exceeded those of the previous season.

In the figures given below are included 670 cars of apples. This number does not include all the apples shipped from California, but simply those that have come under the cognizance of this organization in the same proportion as formerly. This fruit was distributed to a total number of 131 cities, being a considerable increase over that of any previous year; in fact, fruit was placed this year in no less than 28 cities that never before received California fruit in carload lots. While a few of the cities experimented with last season did not prove satisfactory car-lot distributing points, and some of those experimented with this year are not yet ready for such shipments, the most of them

will develop into regular distributing points. The largest quantity of any one variety of fruit handled outside this organization was grapes, and as the several outside shippers of this variety of fruit generally shipped only to one or two cities, at times there was a relatively greater amount of this fruit in some markets than there should have been. Otherwise there has been a comparative evenness in sales throughout the season in all markets. The following is a statement of shipments for the season beginning May 9th and ending November 21st, in actual cars shipped and not based on tonnage:

Cherries	211 cars
Apricots	231 "
Peaches	1,867 "
Plums and Prunes	1,145 "
Pears	1,719 "
Apples	670 "
Figs, Quinces, Nectarines, etc.	23 "
Grapes	1,802 "
Total	7,668 "

Cherries.—The crop of cherries was lighter than that of last year, but was of good quality and ripened gradually, which made it possible to ship and distribute same in the best possible shape. Sales were very remunerative.

Apricots.—More apricots were shipped than last year, and as the crop in the early shipping districts was heavy, the quality was not as good as usual. The prices, on the whole, were satisfactory.

Peaches.—There was an increase over the shipments of last year. The earlier varieties were somewhat lighter, and other varieties about normal. The best average net returns ever secured were had this year. This was particularly true in regard to the later varieties, especially Salways, which held up at good prices until the end of the season.

Plums and Prunes.—There were some 250 carloads less shipped this year than last year, but during the height of the season daily shipments exceeded those of any single day last season. It required the utmost exertion and care to have the shipments properly distributed, to the end that there would be no glut in any of the markets. Later varieties of plums were very short. Prices were very satisfactory.

Pears.—The total number of cars of pears shipped was slightly less than last year, but the main shortage was in the fall and winter varieties.

Grapes.—The greatest increase in any one variety was in grapes, there being 1,802 cars as against 1,033 cars last season, the largest previous shipment of this product. Prices on the whole were even and remunerative and netted satisfactory figures. This, in view of the fact that the importation of Almeria grapes was greater than ever before known, is particularly gratifying.

The larger portion of the above shipments was handled by the California Fruit Distributors, with headquarters at Sacramento. This organization is composed of most of the principal growers, shippers, and co-operative associations engaged in the fruit-shipping business. It was organized in May, 1902, and immediately assumed all of the functions and duties of the organization known as the California Growers and Shippers' Association, together with greatly enlarged powers, duties, and responsibilities; its business being not only to give the utmost accurate information in regard to all shipments, etc., but also to secure an even distribution thereof to all markets.

Membership in this organization is in no way qualified by the quantity of shipments made. The shipper of one car is given as much consideration as the shipper of a hundred. There are eleven directors, each of whom has a vote in the fixing of policies and in the outlining of general business directions. The representation is thus based not on the volume of business done, but rather on the individuals represented.

Before the organization of the present company, those engaged in the industry labored under many disadvantages that are now eliminated. Competition for business was keen, with no regulation of shipments. Each one endeavored as much as possible to keep his business from his competitor, for that purpose billing all cars to one city, making diversions that were kept secret while the cars were en route, with the result, for instance, that a city like Minneapolis, where three cars of peaches might sell at good figures, was at any time liable to have three times that amount sent in by different firms, which would necessitate the selling price being cut to a minimum, while a city like Pittsburg might at the same time be without any fruit, whereas an equalization of the shipments to the two markets would have meant remunerative and satisfactory prices for all concerned.

Then again, when a market was in good shape and the sale of a car would bring satisfactory figures, the parties representing different interests in that city would immediately wire to their shippers in California, "Market in fine condition; advise diversion and immediate shipment of large quantities." The result was that all shippers were liable to take the same action, and in a few days instead of having a good market with fair returns, there would be a demoralized market and serious loss. This condition of affairs would shift from one point to another, and the general experience was that where a market for perishable fruits once reached a low point, unless there was a great subsequent scarcity of that product, it was extremely difficult to again raise the level of prices to a profitable basis.

The formation of the California Fruit Distributors was not an easy matter. Some firms, because of location or superior packing on their part or better carrying quality of their fruit, enjoyed advantages not

common to others. Some of them believed that if they could keep on with prevailing methods for a short time they could force their competitors out of business and then would have the field entirely to themselves, while all the time they would likely be losing money for all concerned.

The present general plan of operation of the California Fruit Distributors is as follows: They do not purchase or own a pound of fruit themselves, but simply act as a clearing-house or agency for the different growers, shippers, and associations working through them, who make their own carload shipments. When a car is loaded the bill of lading is indorsed over to the California Fruit Distributors and is sent, together with the manifest and all pertinent information regarding contents thereof, to the company's headquarters in Sacramento. The car is then disposed of for the account of the party loading the same. Once the bill of lading and manifest of contents of car are received, the management aims to place the fruit in the best possible market for that fruit, taking into consideration the variety, its degree of ripeness, and general quality, and using their knowledge of the needs, requirements, and local or domestic supplies of the different markets, together with previous shipments as a basis of action.

Not only have they complete and accurate information of all shipments previously forwarded, as they make all sales, diversions, and apportionments, but they also receive daily from all leading centers telegraphic information stating present condition, prospective demands, amount and variety of local supplies, and all other matters pertinent and necessary to the most intelligent distribution of the fruit.

They immediately stopped all private consignments to outside points and determined that all fruits not sent to the East to be sold at auction should be sold on what is known as the "f. o. b. California plan"; *i. e.*, that a minimum price for the product should be fixed in California, and a draft for the value of the car be drawn on the bill of lading and manifest, payable before delivery of the car, and that under no circumstances would the price agreed upon be reduced on any shipments leaving California on the same day, whether sold before going or sold en route; the idea being that shippers when sending their fruit to outside points should know just exactly what they are going to receive for their product, and that dealers, if they bought the fruit, would be interested in maintaining prices rather than cutting them; further, that those who purchased the fruit, as long as they had to purchase, would know that their competitors could not buy at a lower price than that at which they could purchase, as it was believed that if buyers could be guaranteed against a decline the business would be energized and stimulated and a greater distribution of products in the outside markets be had, all of which has proven to be the case.

The distribution of fruit to the auction markets is made with the utmost care, and long experience in the business is called upon to direct what fruit should be sent to the different markets and to apportion to each market the relatively proper amount of fruit to keep them all on a comparative equality, after taking into consideration the difference in the cost of transportation and refrigeration charges to the different points. Were California the only fruit-shipping State the problem of distribution would be much easier, but there are other large fruit-shipping districts, especially in the South, and their fruit comes into competition with California products. While this competition may at times interfere seriously with the California fruit, it at the same time shows the absolute necessity of co-operation on the part of those engaged in the industry in California, if the best results are to be obtained.

The saving in expense of telegraphing, mail, etc., much more than pays the total expense of the organization. The first season an endeavor was made to direct a part of the distribution from the Chicago office, but it did not work satisfactorily. This year all of the distribution was directed from the Sacramento office, and the efficacy and wisdom of the action are so manifest and proper that I apprehend no one will again question the expediency or agree to any other action in the future.

The most serious problem to be solved now is the one of transportation. Little more can be done toward systemizing the selling and distribution or increasing the volume of shipments or taking the very best care of those already shipped until this important matter is worked out satisfactorily. We must have a regular as well as an expedited service, to the end that we can know positively, barring accidents, just where a car of fruit will be at any given time. About sixty per cent of the shipments are distributed through the auction markets. No fruit is sold in these markets on Saturday or Sunday. Shipments are made from California on every day, including Saturday and Sunday. Suppose, for instance, that a certain number of cars were sent to Chicago to arrive on Friday in time for the last auction sale of the week, and the fruit arrived too late to be put on sale. It must remain on the track until Monday, with constant deterioration as regards quality and consequently value, and on Monday other fruit would also be due, making an undue and relatively improper offering. The allotments having all been comparatively made, if the cars that did not arrive there on Friday for sale should be diverted to other markets, it would throw the other markets out of balance and the whole scheme of distribution would be upset. Thus everything depends upon *transportation*, for on perishable products it is a well-known and undeniable fact that a day lost is never regained, to say nothing of deterioration and consequent loss on shipments when too long en route.

The most strenuous efforts will be put forth by the California Fruit Distributors to obtain such a service, and until such a service is had it

will not be felt that the most vital necessity of the business is secured or the next most necessary reform accomplished. Other reforms and changes will have to and will be made, but little more can be accomplished until this stumbling-block is out of the way. It is only because of the splendid carrying qualities of the California fruits and the intelligent packing and preparing of the same that they have been able to maintain their present position in the various markets, and there is no reason why the industry can not and should not be maintained upon a permanent, stable, remunerative basis on average results for all seasons.

The past season, by discounting the promised schedule time and figuring upon the probable arrivals in the several cities based upon the actual time being made, very fair comparative results were attained. There were no gluts or comparative over-supplies in any of the markets, and the net returns were fairly satisfactory. How much better they would have been with better time can only be estimated.

Thus far, out of diverse interests, secrecy, and undue competition has come a measure of order, system, stability, and satisfactory returns, and while to favorable conditions in the East might be attributed a part of the result, it can not be wholly so attributed, because never before in the history of the business have there not been times of glutted markets and red-ink returns from some of the distributing points, and besides, the shipments this year were greater than ever before by several hundred carloads.

With a proper selection and careful grading of the fruit and an expedited scheduled freight service, and with possible reductions in charges in different ways from time to time, I believe that twelve thousand cars of deciduous fruit can be marketed from California with as good or better results in the future as have ever been attained in the past, and the organization and maintenance of the California Fruit Distributors is a long step toward that consummation. It is a long stride in the direction of intelligent and practical co-operation in the handling of one of California's chief products, with consequent benefit to the whole industry and to the whole State.

CO-OPERATION IN THE MARKETING OF CURED FRUITS.

By M. THEO. KEARNEY, OF FRESNO.

Co-operation in the marketing of cured fruits is the subject upon which I am invited to say a few words. This broadly covers all cured fruits, whether peaches, apricots, pears, apples, prunes, or raisins.

We are holding our meeting in the town and county of Fresno. Fresno has been my home and the field of my labor for thirty years, and it would be most agreeable to me simply to express the great pleasure which I in common with all the people of this central portion of the State have in welcoming to our midst our brother fruit-growers of California, and in thanking you most cordially for the great honor you have done us in again selecting our town for the holding of your Convention.

While it is always permissible to snatch some pleasures by the way as we fly through life in this supremely strenuous country, now fairly well known as the United States of America, we would not be true to our environment, and to the spirit of our institutions, if we failed to put duty and our material interests before pleasure. I must therefore beg your indulgence and pardon if in the little I have to say on my subject I use arguments and expressions which may not sound entirely pleasant or agreeable. My apology and excuse is that in so doing I may prove much more your real friend than if I adopted a more complimentary line.

We fruit-growers of California have been accustomed for so many years to be praised for our thoroughness in the cultivation and general management of our orchards and vineyards, for the intelligence and skill displayed in the selection of varieties of fruits and in the combating of insect pests, for the broad-minded and masterful enterprise shown in the rapid development of our industry, and for the great success achieved in the quality of our products, that perhaps we may be in a measure pardoned for sitting still and purring gently while our fur is being stroked the right way.

But I want to ask you whether there is not ground for a strong suspicion that we are really the receivers of goods that, strictly speaking, do not belong to us? We are being praised for our enterprise, our business sagacity, and, in a word, for our success in life. Now, I contend that efforts which are only half successful are not entitled to the crown of praise and the laurel wreath. In other words, that although we may produce perfect fruit in large quantities and at a minimum of cost, still if we do not provide for the marketing of that fruit so that it shall yield to us a reasonable profit every year on our investment of capital and labor, we have not reached the goal, we are not victors in the essential thing for which we are struggling, and, therefore, we practically are failures.

It has always been a mystery to me that men who in other respects show so much intelligence as do farmers, and especially fruit-growers, are as a class so utterly lacking in capacity when called upon to deal with commercial affairs. I use the term lacking in capacity in a comparative sense, and to show you how much I am justified in doing so I ask you if you have not had object lessons in the value of co-operation sufficient to convince and convert even the most primitive intelligence? Can you name five per cent of the things you pay out your money for in these days for which you are not forced to pay a greatly increased price through the leverage of co-operation or combination? From the great financial trusts, the great railway corporation combinations, through nearly every manufacturing interest in the world, down through all combinations of mechanics, miners, and other skilled and unskilled labor, even to the thousands of Italians who with pick and shovel are digging subways in New York, who can not speak a word of English, are in a foreign country, and have but quite recently left work in their own country that paid them but 30 to 40 cents a day and yet who here insist upon getting \$2.00 to \$2.50 a day—all, all can combine, and will, when necessary, starve themselves and their families in their determination to succeed, but the intelligent growers of cured fruits find it impossible to make even a half-way creditable effort to do so. Is this not true? And if it is true, is it not cause for the blush of shame to cover the face of every one of us?

Among the cured-fruit producers we have an association of raisin-growers which is only partially successful and has been kept alive from year to year only by a miracle, because so many of them in their blind selfishness seek to gain a little advantage over their more enlightened neighbors by staying on the outside.

We have had weak and half-hearted efforts to organize the producers of cured peaches, apricots, and pears, but with no success.

As to the effort to organize the prune-growers, you all know about that miserable failure. And yet while the prune-growers are this season making a desperate effort in a detached way to force up the price of prunes to a 3 or 3½ cents basis, every man familiar with market conditions, and the absolute fruit famine this year all over the world, knows that if the growers were united in a marketing organization they could get 4 cents easier than they are getting 2½ cents now. In France the prune-growers are getting three times the price the California growers are getting, and for no better fruit, in fact not as good as ours. In Hungary some weeks ago some of the prune-growers not knowing the situation sold at a low figure, others found out about the scarcity and at once raised the price 100 per cent, while those who sold early almost created a riot because the government officials were slow in issuing their crop bulletins. Pray God that we may develop some of that spirit here in California.

Is it possible that we, the cured-fruit producers of California, will go on making a shameful exhibition of our incapacity in the face of the business world, and with such a phenomenal opportunity to win a fortune for each and all of us as we have had this season?

As to methods of organization, resourceful men should be able to devise half a dozen different methods, any one of which would bring success.

If the plan of the raisin association is not adapted to the larger needs of the producers of prunes, peaches, and apricots, or if through the mismanagement of the board of directors of the prune association that plan is discredited, why not take as an eminently successful model the best of the labor organizations? Create local centers of organization all over the State where deliveries are to be made, and let the packing of the fruit be done by those who produce it. These local organizations to create a central board of delegates, which, through inspectors, shall enforce a uniform standard of packing that shall command the confidence of the trade and create a valuable trade-mark. This central board to have the sole control of prices and the distribution of the fruit. The proceeds from sales to be sent in lump sums to the various local organizations, to be by them paid out to the farmers.

This need not interfere in any manner with the sale of the fruit through the present established channels of trade. It simply reserves the packing and—a very important point—retains the possession of the fruit in the hands of the growers until paid for.

Allow me to make one more suggestion, which is this: If the growers are to have a reasonable hope of creating a marketing medium that will be really and entirely successful, it will be absolutely necessary for them to rise above the penny wise and pound foolish practice of employing boys to do men's work, of employing so-called cheap men who invariably prove a costly and unprofitable investment, of skimping in the salary, thereby reaping loss and disaster through incompetent service. I think you will all recognize Mr. Carnegie as a pretty good model of a successful business man. It is well known that he made it a rule of his business career to employ as his assistants the very best and most skillful men in the iron industry, and that he paid them liberally is evidenced in the large fortunes of Mr. Frick, Mr. Schwab, and others. You have heard of the great Krupp Iron Works of Germany, the largest and most successful in Europe. It is evident from the character of the German navy and of the German Atlantic passenger ships that the Krupp Works have skillful workmen. It is known that the German system of education is the most thorough in the world. And yet it is a fact recently noted that this company, by the offer of much larger salaries, enticed away some of Carnegie's best men.

Do you think they would do this if they did not believe that it pays

well to employ brains? If you will pardon me I will dwell a little longer on this point, because the employment of incompetent men is the rock that has shipwrecked many a farmer's organization.

Many of you may have heard of Mr. Pulitzer, the owner of the New York "World." He bought that paper at a comparatively low price when it was very much run down. Being a newspaper man he knew who the best men in the profession were, and by the offer of greatly increased salaries secured their services, built up the reputation of the paper, and made millions of dollars out of the investment. Another example is the New York "Herald," which is the greatest money-making paper in the world, and it has been made so by the Bennetts, father and son, by wise and liberal management. The controller of this paper hesitates at no cost however great to get important news in advance of competitors.

To take an illustration nearer home. We have a raisin association which handles over 40,000 tons of raisins a year. In my judgment a thoroughly skillful manager, if supported by the growers, could so handle that crop any year as to net the growers 5 cents a pound for their raisins. Last year we obtained $3\frac{1}{2}$ cents a pound. This year I fear the net result will not be 3 cents. The difference between 5 cents and 3 cents is \$1,600,000 in one season.

Will any man contend that it would not be a good investment to pay an expert manager \$25,000, \$50,000, even \$100,000 a year, if you could not secure his services for less, to save that enormous sum of money? Apply this to your prune crop, and it will show even larger figures.

Bear in mind that I insist that the man must have undoubted ability and be worth the money. I claim, therefore, that the right man as manager should be sought for all over the country, that you should if possible secure the most successful and skillful man in the trade, even if you have to buy out his business with him, and if he will not consent then you should make every effort to get the next in ability—and when you have got him don't dream of telling him what to do. On the contrary, support him in all his plans until he proves a failure. If, as has heretofore been shown by your votes, you all think yourselves competent to handle this business, then we must have a bonanza of business ability worth more than all our gold mines.

No self-respecting man, or body of men, can say that because of failure once, twice, or a dozen times they need not try again. I hope, therefore, that on this day and by this Convention a movement will be started that will redeem our characters as intelligent and enterprising men, and through its resultant prosperity our fruit-growers will add their quota to the renown of this glorious State—California.

POSSIBLE AND IMPOSSIBLE CO-OPERATION.

By A. R. SPRAGUE, OF SACRAMENTO.

This day marks a critical period in the development of California. Her progress must be slow unless conditions justify the expansion of her orchard industries. No other form of development will so rapidly draw hither those people of the East who form the most desirable citizens. No other industry permits a subdivision of land which can secure a dense rural population. Cattle ranges were cut up into vast wheat farms, and these in turn must be cut up into small ranches fitted for mixed husbandry, in which the culture of fruit should be an important part, but owing to the disorganized condition of the dried fruit industry the limit of wise expansion in fruit planting is but just ahead. I believe this is so evident to this Convention as to need no discussion. If this is a fact, it is a most important fact to every citizen, whether orchardist, manufacturer, banker, or merchant, and it should command their most serious consideration.

In this brief paper I must regard as fully established such propositions as have been steadily before the people for several years past and have never been publicly controverted. Most prominent among these is that co-operation among California fruit-growers is absolutely necessary to the steady success of the industry. Such co-operation is, as yet, very limited in its scope, and covers but a small part of the whole field.

What, then, can be done to extend its influence? is the all-absorbing question which I shall seek to discuss.

In my judgment the chief obstacle is the prejudice against every form of co-operation, caused by the failure of the great California Cured Fruit Association. This antagonism would be justified were that the only method of co-operating that has been tested in California, but it is not.

A form of organization is but a piece of machinery by which we seek to accomplish a certain work. Most farmers have, at some time in their experience, purchased a machine which would not work well. Did they, therefore, forswear the use of any sort of machine designed for such work? By no means; they were instructed by their mistaken purchase and used greater care before again purchasing; they were careful to find out if any other machine had been thoroughly successful in performing similar work. Exactly such should be their attitude in reference to co-operation.

Examine with me the only two methods of co-operation that have yet been extensively tested in California. The one method is that of the Cured Fruit or Prune Association and also of the Raisin Association. The fundamental principles of this form of organization are two, viz:

First, it is a great democracy; all growers in this great State who

are members must gather in the vast assembly that shall direct its affairs.

Greece fell a prey to the barbarian hordes, because not yet had been developed the idea of representative democracy which would enable her various cities to unite in making laws and provide for their administration.

This developed form of political co-operation reached its highest efficiency in our own city, county, state, and national governments—a truly representative democracy.

The difficulty of securing a quorum with a membership so widely scattered has been a most serious cause of weakness. Add to this the fact that in the various widely separated groups of growers there are no organic influences at work to promote harmony of feeling and of action, and there is no way for such groups to participate in the direction of the work save at the great yearly assembly—the annual meeting. There is, therefore, no feeling of direct responsibility for the conduct of affairs. This is a serious element of weakness. These conditions naturally give rise to the question of the permanence of the organization—a doubt most injurious to the influence of the organization among Eastern buyers, which is emphasized by the struggle necessary to secure the renewal of contracts after their expiration.

The second fundamental characteristic of this form of co-operation is that it early establishes a price for its products, which it pledges itself to maintain throughout the season. It is a negative attitude, "We will not sell except at our price." A fine bluff, which has failed more often than it has succeeded. Unless nearly the whole product is controlled by such a combination its efforts to maintain a minimum price must necessarily fail. Success is chiefly dependent upon the confidence which the organization inspires in the Eastern buyers. This once lost is hard to restore. It is now lost. When, therefore, the grower has lost confidence in this method of organization, and the Eastern trade is also in the same state of mind, it would seem wise to cease to look to this form of organization for future co-operative work in California.

The other method, that of representative democracy, meets our industrial as well as our political needs. It has a record of continuous success. For fifty-nine years Rochdale co-operation has steadily advanced in England until it is by far the most potent commercial force in England. In this country, too, wherever the method has been adopted in full—that is, where the local organizations have centralized in a buying agency—it has succeeded. The same form of organization has an unbroken record of success in the fruit exchanges of California.

The Southern California Fruit Exchange was the first to demonstrate the value of this method of co-operation among citrus fruit-growers. From a small beginning they grew into a business of \$7,000,000 per year, and then to secure more complete efficiency they arranged to

co-operate with their rivals, the packers, under agreements completely protecting their constituents and yet dealing so fairly with these rival interests that their second season finds the California Fruit Agency more harmonious and stronger than ever.

Equal success has attended the same method as worked out in the California Fruit Exchange in deciduous fruits at the north during the first three years of its organization. Its steady success in showing its patrons the benefits of co-operation has led to a rapid growth. This winter it is marketing dried fruit from Santa Clara County, and next year it will be operating in southern California as well.

Here, then, is a piece of machinery fully tried, and always successful in proportion to the extent of its use; easily adapted to meet the special needs of any industry and to unite in any reasonable and just manner with any other permanent factors in its field of work. This is possible co-operation.

The formation of local associations, exclusively of fruit-growers, is the first necessity; the function of these being to get fruit ready for shipment in car lots, and to unite in a general agency for marketing the same. When such an organization is sufficiently complete it may unite for the accomplishment of common purposes even with opposing interests, as in the case of the California Fruit Agency and the Southern California Fruit Exchange in the south, and the California Fruit Distributors and the California Fruit Exchange in the north. Doubtless greater efficiency could be had if all fruit-growers would unite in a growers' organization, but they will not, and hence that idea is of impossible co-operation. Many growers will continue, for one reason or another, to remain outside of any such co-operative work. Why not recognize this and make the best of it? Something must be conceded by each before men can co-operate. Since a large fraction of the growers will not co-operate, their business necessarily goes to the commercial packers and shippers. These, then, are a necessary part of any fully effective co-operative plan. They must, therefore, be conceded a profit large enough to hold them loyal to the general plan.

Since these packers and shippers are buyers, their interest in the selling market is the same as that of the grower; that is, they desire to get as much as possible for their product. Since such an alliance is purely to secure a steady and profitable market, it is entirely homogeneous; but these packers and shippers as buyers naturally wish to buy as cheaply as possible and the grower desires to sell for the highest obtainable price. Co-operative selling tends to sustain prices, and is therefore opposed to the interests of shippers and packers who wish to speculate. At this point the latter must give way in return for a reasonable basis of profit conceded by the allied growers; but their speculative profit is uncertain and they could well afford to forego this to

some extent, if they could be assured of a regular but moderate commercial profit. Thus a basis of agreement between these previously antagonistic elements could be arranged in each branch of our California fruit industries. Already the California Fruit Agency, operating in citrus fruits, is demonstrating the general method to be pursued.

First must be secured a growers' co-operative organization based upon local associations, centralized, which might include local packers who ask only a packer's profit. This might be strong enough to operate as an independent organization. Then this organization and the chief commercial packers and shippers can find a basis of agreement by which all may profit in securing the efficient marketing of their products. Their methods will, of course, be such as the California Fruit Agency now uses and which every other thoroughly successful commercial combination adopts, viz: their own paid agents, properly supervised. Though naturally antagonistic, the factors of such co-operative organization will keep their mutual agreements, because it is bad business not to do so.

The California Fruit Distributors as yet comes far short of the high efficiency desired, not because of antagonism, but because its members have not yet been willing to make such concessions as will enable it to efficiently organize its marketing agencies. Undoubtedly, however, it will develop in these lines as the need becomes more imperative.

The dried fruit interest is almost entirely without organization. The need is here most urgent, and no citizen can afford to be indifferent to it.

The Raisin Association needs re-organizing, to give it greater permanence and efficiency.

The olive and honey interests also may well adopt the same plans.

The several fruit interests may thus be co-operatively organized, and then act together in sustaining, in the consuming centers of this country and Europe, the most efficient and complete agencies for distribution and sale of their various products that ever were established.

These interests will thus be able to bring to bear a vast influence wherever necessary, either in securing more favorable conditions in transportation, or in increasing the consumption of coast products by means of advertising or in any other manner. Because they would make fruit-growing permanently profitable, they would outclass all promotion committees for bringing to our beloved State the thrifty and intelligent people of the East, who are delaying their coming only for the assurance which such co-operation would supply.

This kind of co-operation is practicable, it will pay its way, will imperil no one's living or property, may be begun at any time and almost anywhere. How long will the people of California continue indifferent to so great an opportunity?

CO-OPERATION.

By C. D. HARVEY, of LOOMIS.

Co-operation has been so thoroughly discussed in all its phases, not only on this present occasion, but also at former meetings, that I hesitate to accept an invitation to take part in its further consideration. When, however, I observe the different opinions and diverse conclusions of those most familiar with the subject, I am impressed with the fact that we are still reaching for conclusions which experience has not fully settled. The past history of co-operative efforts in this State has discouraged rather than encouraged us, until the very term "co-operation" repels the average grower. Defeats have outnumbered the successes in the direction of co-operative efforts, and instances of ill-advised and badly-executed plans bringing disaster into so many homes are still fresh in the memory of all our growers. In the light of past experiences, co-operation is a many-sided subject, and to different individuals and classes has varied meanings. To the five poor English weavers in the old country who laid the foundation for that colossal co-operative institution which has extended its operations over the commercial world, doing a business of hundreds of millions of dollars annually, it is a tremendous power. When, however, it is used as a false signal to entice the unsuspecting into the power of designing or selfish men, its mission is changed and its strength is measured only by the money it controls.

Co-operation is a principle, not a policy, and any co-operative movement which is not based upon principle will in the end prove a failure. Its power can not be measured by the amount of money invested, but by the spirit of the men comprising the membership and by the sound principle upon which it is based, and this will, I believe, account for much of the failure of the past and especially where success was based upon the numbers and volume of business it controlled, forgetting that great organizations were as subject to natural laws which govern trade, as the lesser ones.

The mighty Mississippi is as subject to the law of gravitation as the most insignificant creek, and when she bursts her levees and rushes over a productive and fertile country, carrying desolation and destruction in her pathway, she is only following the natural laws of her being, just as some of the gigantic co-operative organizations of the past, getting beyond the control of the growers, have devastated homes and destroyed confidence in this State. It carries within itself the seeds of its success or its destruction.

It is therefore by the failures as well as by the successes of the past that we must take our bearings for the future, and our best thought and keenest discrimination to-day should be given to this subject of co-operation.

The old highway over which co-operation has traveled in the past is strewn with the wrecks of co-operative organizations, so when I was sent into Santa Clara County a year ago to work in the organizing field for the Patrons of Husbandry, it became necessary to give thought to these matters, and I found organizations built upon sandy foundations, with a superstructure of insecurity and selfishness on the part of both officers and members. Organizations without one distinctive co-operative feature, except the name "co-operation," were used as a bait to beguile the unsuspecting growers under their baneful influence, where interest on the stockholders' capital swallowed all co-operation dividends, until the mere mention of the word "co-operation" was to the average grower what the shaking of a red flag is to an angry bull—and this was the field to which I had been assigned.

It is not my purpose, however, to criticise the failures of the past. Neither do I expect to furnish suggestions not already familiar to you, but rather to rehearse the individual experiences and personal observations gathered in the work as organizer during this period, which may furnish some material which our co-operative builders may utilize hereafter in the co-operative structure.

A play-loving boy first gave the suggestion which led to the automatic cut-off of the steam engine, so it might happen that from one outside the beaten path of co-operation and less familiar with its work, will come a suggestion which your master mechanics could put to some good use.

The field assigned me was a difficult one, owing to the distrust and lack of confidence of which I have spoken, but after a few weeks of earnest effort several organizations were effected in the thickly-settled fruit-growing districts along the west side of the Santa Clara Valley. The bringing together of those growers into neighborhood organizations, to discuss the topics of the day, markets, farm and household questions, developed a disposition for action to secure relief from outside agencies working against the growers.

Organization without co-operative action resulting therefrom is like a tree without fruit—nothing but leaves. Co-operation is the natural result of organization, so that all through these organized districts co-operative organization began to blossom.

At Mountain View an extensive brick warehouse was transformed by its magic touch into an up-to-date packing-house, supplied with all modern appliances for grading, processing, packing, and shipping. Heretofore this community had hauled its fruit a distance of twelve miles to a neighboring town for packing and shipping, and now not only the expense of the hauling is saved to this community, but the cost of grading, storing, processing, and packing, as well as the increment on something like four hundred tons of dried fruit, is disbursed

in the community where the fruit is grown, a saving amounting to over half the cost of the plant the first year.

Sunnyvale, a little burg of less than a dozen houses, surprised itself and the neighboring towns to find itself the possessor of a new up-to-date packing-house, built upon the co-operative membership plan, grading, storing, processing, packing, and shipping about three hundred tons and distributing these expenses in its own community, with a saving corresponding to that of its near neighbor, Mountain View. Cupertino also followed suit, and the seeds of co-operation are germinating all through the district—evidencing the secret power of earnest and honest work. And better than all else, confidence is being restored—that foundation of all permanent and successful co-operation.

The construction work of the organizer having been accomplished, new conditions are created which must also be provided for.

The speculating shippers, foreseeing the far-reaching effect of this movement in liberating the growers from the contracts, by a unity of action attempted to crush the movement at the very beginning. Controlling the packing-houses, the transportation companies, and the selling agents in the Eastern markets, the future of these young associations was not assuring, and when the older associations of the growers began to furnish supplies to the speculating shippers to break down prices and to close the markets, it was evident that the new associations must represent the future co-operative movement in this contest. This combination of speculating shippers with local agencies and Eastern sellers to depress prices and dominate markets, drew the dividing line between the co-operative and non-coöperative interests sharper than ever before, so that both individuals and associations were compelled to decide between co-operation and non-coöperation, regardless of the name they might assume; and by the conspiracy to establish an inadequate price for the growers' products, and to force an acceptance of that price by controlling markets and marketing agencies, these young associations were confronted with a problem which older and more experienced associations shrunk from, but with a courage born of desperation they accepted the situation and stood by their organization.

Three things were now necessary: First, a selling and distributing agency so as to reach the Eastern market; second, storage, processing, and packing facilities for such districts as were not included in these organized associations; third, money, not only to do business, but for the growers to live upon while the fruit was being marketed.

The co-operation atmosphere was so tainted with the dead and decaying bodies of the old associations that it was difficult to reorganize a selling agency in so limited a period without becoming entangled in local jealousies and local business interests or disturbing social or family ties, all of which must be duly considered at so critical a moment—

in short, all the agencies employed must be absolutely free from everything which might hamper or hinder its effectiveness.

At this time an appeal was made to the California Fruit Exchange to take charge of their shipping interests. And the helping hand extended to the call was the first co-operative assistance they received outside themselves.

Storage and packing facilities were next demanded, and the warehouse of the old California Fruit Association opened its doors to receive the growers' produce before the winter storms should force a sale to the waiting speculators. It was like the parting of the waters of the Red Sea when these growers thus escaped the speculating task masters of California.

Thus, another point was gained, and the question of finance next confronted the needy growers. This was a cold business proposition, with no sentiment to recommend its favor, but prices were depressed and the markets practically closed by the market manipulators.

A speculators' siege was begun, and storage, packing, and shipping facilities availed little to appease the immediate demands of a hungry stomach or the pressing needs of the family. No one understood this better than the besieging speculators, but they had not reckoned on the tenacious power of loyal, self-denying, co-operative associations like these.

The co-operators' appeal unlocked the iron doors of the money vaults, and the needed supplies (an advancement of one half the market value of the products as represented by the warehouse receipts) were at the command of every member.

It was a new order of things when every grower could do business in a business fashion with a business institution.

Thus, step by step, these growers with a returning confidence are throwing off the shackles and crop mortgages which have bound them to servitude, and out of the ashes of the past failures is being builded a house of refuge, into which every needy grower can come—a place of safety for him and his products.

I have thus detailed the practical workings of local organization as I have observed it. It is a system of education which lifts a community out of helplessness, and makes every individual in that community an integral part of the community, which is of tenfold more value to him and the public than the increased money value of his products.

Two things are an absolute necessity, namely: confidence and integrity on the part of growers. Given these two conditions, and no mercenary compact can stay the irresistible force of co-operation among the growers in California or elsewhere.

PRESIDENT COOPER. "The Pact," a protective organization. The Secretary has the paper and will read it. (Paper read by Secretary Isaac.)

THE PACT.

By MARTIN JONGENEEL, OF COURTLAND.

The desirability and necessity of organization among farmers and fruit-growers have been repeatedly brought before the public, and nobody now denies that this offers the only solution the farmers have to better their condition. In view of the fact that all other classes of men have formed organizations and have succeeded in deriving immense benefits therefrom, it may well cause wonder that the farmers are about the only people who have not organized. It is very true that attempts at farmers' organizations have been made in the past, but with indifferent success. As a general rule, the farmers themselves are blamed for these failures, and are accused of the lack of sticking qualities.

In several instances the intense competition between the producers has prevented them from realizing that the men opposed to them are not their neighbors who sell the same product, but the middleman, the canner, the shipper, and the commission man, who buy their products and sell them to the consumer. Every one who has lately read the San Francisco "Chronicle" is acquainted with the way the commission men have been conducting business. The people of San Francisco have been compelled to pay enormous prices for vegetables and fruit, while the farmer gets very small returns, the commission men making most of the profit.

The main trouble, as we believe, has been the difficulty of forming an organization on principles broad enough to keep the farmers together and at the same time run it in such an economical way that nobody will think that he is paying out a good deal of money and not receiving very many, if any, benefits for the same.

We take this opportunity of bringing to the notice of all farmers and fruit-growers of the State of California the existence of a farmers' organization, which was formed in May, 1903, at Courtland, Sacramento County, California, and which is known in that locality as "The Pact." We believe that "The Pact" is based on principles which may lead it to become a general pact all over the State.

At the present time "The Pact" is simply an organization for farmers on the Sacramento River to come together and talk over their conditions, to suggest methods by which they can be improved, and to act as one body whenever a concession has to be asked for from outsiders. At the present time "The Pact" has followed the policy of not engaging in any commission or buying business whatever. So far, our organization has been a small one, still we have accomplished some good results; enough to more than pay its members for the small dues, and to make us hopeful that "The Pact" is going to be a success and is going to stay with us. As an example, we will state that in former years the farmers on

the Sacramento River suffered a great loss in empty boxes, which were either not returned by the commission men or lost by the transportation companies. This year "The Pact" took up the matter with the above-named parties in San Francisco; a new system of handling the empty boxes and baskets was inaugurated, and as a result very few boxes were lost, and one grower reports that this season he is gainer by one hundred boxes. In explanation of this it may be said that these one hundred boxes were some which he had lost the year before and which had been in the hands of the commission men and jobbers for nearly a year.

Another grievance which the farmers on the Sacramento River had, was that the Southern Pacific mail boats did not leave San Francisco on schedule time; some of the subordinate officials being anxious to wait a little overtime, to take on more freight; then the United States mail, which is carried by the Southern Pacific boats, was not distributed in a manner expeditious and convenient to the farmers. "The Pact" sent a committee, which had a conference with the general manager of the Southern Pacific Company, and stated their grievances. As a result the boats now leave exactly on schedule time. At our suggestion the Southern Pacific Company took up the matter of the mail with the postal authorities, and as a result, after December 1st we are to have mail agents on the boats, who will distribute the mail from station to station. Other examples could be brought forward, but we think that these are enough to show that by standing together something can be done. As individuals the farmers would not have been able to accomplish any of the above-named results.

There are a great many questions which are of importance to all the farmers of the State; others are of a local nature. The plan which we have in mind would be to have small local sub-organizations of "The Pact" distributed throughout the State. Whenever a local question came up, it would be attended to by the local organization; questions which affected the whole State would be taken up by the head organization, which naturally would be situated in San Francisco. These local organizations would be in a position to get exact estimates of the crop reports in their different localities, and by sending these estimates to the head organization, they could be computed and the head office would then be in a position to know almost exactly how much of any particular product would be put on the market and what price should be received for the same. Thus the expense of getting this information would be nominal. This item alone would be of incalculable value to the farmers, and it is something that they have never had before.

There are now no end of abuses which are not corrected, simply because the farmers are not organized and do not enter an organized protest. Most every one knows that in the business of shipping fruit to

Eastern markets a great many things ought to be changed. Last season, and every season before it, many carloads of fruit were too long in transit, thereby spoiling the fruit by the time it reached the Eastern market. By the investigations which are now being made in the business of Porter Brothers Company is shown what is made by the shippers in the nature of rebates, and we may be sure that a very small part of the transactions will ever be known. Many of the farmers who have been shipping fruit East have known this for a long time, but have simply allowed the thing to go on, and the few individuals who have made a protest have been laughed at and ignored.

As a rule, the local organizations could do most of the business, because any reasonable demand they would make of any other organization, be it transportation companies, canners, or commission men, would be readily granted, if these organizations knew that the local organization of "The Pact" was backed by nearly all the farmers of the State of California.

Farmers and fruit-growers of the State of California, we appeal to you to give this matter your earnest thought. We are not conceited enough to think that we on the Sacramento River are the ones who have discovered a way of organizing the farmers that can not be improved upon, but we feel the dire necessity that the farmers must wake up and stand together. This accomplished, the time will have passed when the farmer will ask the buyer and consumer what it pleases them to offer him for his products; instead, he will tell them what they can buy his products for.

DISCUSSION ON CO-OPERATION.

MR. SPRAGUE. Mr. Chairman, as no one seems willing to speak I will crave your indulgence while I say a few words relative to some of the points brought up, first reviewing somewhat the last paper. I have been studying, so far as one on the outside can, the labor organizations' record for the last year, and I find that there exists a very common feeling of uneasiness among these organizations lest they are going too far, and they are looking after some other method among themselves for securing that justice which they deem they are not always getting. It is well enough to fix a price, if your price is reasonable and if you are prepared to sustain it and prepared to retain your product if the buyer refuses to take it. It is always unwise to make a "bluff" of that kind and fail, because it creates loss of confidence. Now, I believe in organizations taking on such functions as are thoroughly practicable and which can be carried through in spite of all opposition. In other words, I believe in a positive method of doing business instead of a negative method. As to the principle of fixing a

price which buyers must pay, suppose they don't choose to pay that price, what are you going to do about it? You have got to wait until they will or until some one else does. That is as far as we can now go in the progress of co-operation in California. I grant that it would be possible, with complete control of an industry, to secure a high price for a product, if the product is a necessary article of consumption and one which could not be supplied by any other section; but those conditions are almost impossible of attainment. The same results can be attained by the other method, co-operation, that resting on the local association, providing you obtain the same support. Many markets will pay a little more than some other markets and it is possible to adjust prices to the situation, for instance, to the competing foreign crop; as the season advances that condition is more clearly developed and it is possible to fix prices to meet that sort of competition. In the dried-fruit business it is absolutely essential that your system of marketing must be elastic enough to meet the competition of other fruits—the Eastern dried apple and the Eastern fresh apple in the Eastern markets. The varying crop which prevails in the Eastern fruit markets is a great factor in determining how extensive will be the consumption of California dried fruits. We are practically of one mind to know whether or not this is a workable plan, whether we can go right at it this coming season and gain a measure of success, which will be from the start far better than no organization, then advance further, step by step, steadily moving forward, until we have a fair prospect of obtaining complete success in co-operative organization. Now, my friends, that really is the system which controls all the great business organizations of this country. It is, practically, the system which my friend, Mr. Kearney, has alluded to. It is the local association centralized, the functions of the local association joined to the centralized association, formed by general representatives of the whole.

MR. KEARNEY. Mr. Chairman, I would like to say one or two words, which may help us along in this discussion. I gather from Mr. Sprague's arguments that he deems it necessary to have one form of organization for all our products. I believe, if he stops to consider the matter carefully, that he will find that it may be better to deal with the products as they are. It would be absurd, for instance, for the orange-growers or the fresh-fruit growers to organize on the same lines as the raisin-growers, for the reason that the product is totally different. Fresh fruits, oranges, and such products must be sold when they are picked, whatever the market is. Dried fruits and raisins can be carried. Consequently our organizations do not call for exactly the same principles in their management. In dealing with the different classes of fruit we may apply different principles under the general form of co-operation. In organizing the raisin-growers I was, perhaps, instrumental in getting

them to adopt a certain plan, which was to get control of the whole of the crop, to fix a reasonable price upon that crop, to assure the trade that when those prices were fixed they would not be lowered, and to carry the crop through to the next season, if possible, any portion of it that was not sold. We thought that if we could convince the trade that we would hold to whatever price we fixed, that we had control of the crop and would not allow it to go upon the market at a lower price than we named, they would buy freely, and that if they bought freely they would urge their agents and salesmen to sell, and it was the policy to name our lowest price at the beginning and to announce to the trade that we would raise the price. This was a temptation to the trade to load up largely and early in the season, and in that way we secured the services of the trade in distributing our goods. We did name the lowest prices at the beginning of our operations, we did keep our promises to maintain prices, we did raise prices the first year, and we did capture their good will, and the next year, when we raised prices nearly 100 per cent, they rushed their orders in at once and we sold our crop freely. Now, you may deal with a product like raisins in that way. As to the prune crop, I advised growers to adopt the same plan, for the same reason: to tempt the trade to buy largely at the beginning of the season. Now, when you come to deal with dried fruits, peaches, apricots, and other like products, which are produced outside of California as well as inside, where you can not get a sufficient control of the crop, where you come in competition with unknown quantities, then I agree with Mr. Sprague that you must have a more elastic plan. I therefore suggest that it is quite within our province to act on the co-operative plan and deal with the different products as the conditions require.

MR. ALLISON. The board of directors chosen by the raisin-growers of this State distributed last year in the neighborhood of \$4,000,000 to the growers of this State, and it was the largest price for the largest crop and the money was paid to the growers in the shortest time in the history of the Raisin-Growers' Association. The great trouble in co-operation is that there seems to be two or three cliques, that the "outs" will not support the "ins" for the benefit of all, and to say that the Raisin-Growers' Association has been a failure in the last years I think is not stating the fact. Last year it handled 42,000 tons out of 48,000 tons produced in the State, and it paid the growers prior to the annual election.

MR. SPRAGUE. Mr. Chairman, I believe my friend Kearney did not get quite down to a rigid analysis of the representative democracy method of co-operating. Let us see what we could accomplish and whether there are any objects which he seeks to accomplish with the other plan that could not be accomplished with this, and I affirm there are none. In the first place, there would be several local associations

dependent upon a convenient place for processing their raisins and loading them in car lots. That would determine where the local associations should be. There would be an immense association here in Fresno, unquestionably; there would be several associations in contiguous districts, in Visalia, in Hanford, in Fowler—well, you know better than I do where there would be local associations. There would be one or more great seeding institutions, to which the raisins could be sent to be processed for seeding. The central association or exchange would perform all those functions which are now performed by the Raisin Association; that is, it would have control of all those things which concern the whole field. As to selling, it would have, either alone or in conjunction with other interests, its agents in every town of importance in the United States and abroad, if raisins were sold abroad. Those agents would be men largely on salaries—some brokers, perhaps, but those brokers would be under the rigid supervision of our own paid men, paid officials, in touch with the Eastern trade all the time. The central organization would decide, after conferring with the representatives of the local associations, at what prices raisins could be put out safely, making no promises to the trade, but being judicious in the matter of prices, so far as possible taking into consideration the foreign competition, etc. Now then, if it were found that the foreign fruit could compete favorably with our fruit at the price established, so as to cause the importation of an undue amount of foreign goods, that price would have to be lowered somewhat. If it is necessary, it can be lowered under that system. By beginning with a price giving reasonable assurance that you will move the raisins, and then keeping close tab on all the markets, you will be in a position to crowd up the price a quarter of a cent, or half a cent, and the stiffening of the price will strengthen the courage of all the Eastern dealers. They will take on larger quantities of raisins. This thing can be analyzed closely enough to tell whether this plan would be successful or not. I feel very sure, indeed, that it would; that the end which you seek to attain could be accomplished with this more highly organized form, which the whole commercial world is practically working under at the present time.

At this time a recess was taken until Wednesday morning at 9:30 o'clock.

PROCEEDINGS OF SECOND DAY.

WEDNESDAY, December 9, 1903.

The Convention was called to order at 9:30 o'clock A. M. President Cooper in the chair.

MR. MARKLEY. Mr. President, if I am in order I would like to make a report.

PRESIDENT COOPER. The program has been completed as far as we have gone excepting the paper of M. V. Hartranft and the one of Mr. Filcher. I presume that they will be here and that we will hear them this afternoon. The Governor is in Fresno, and will be here some time this morning. After his arrival we will suspend the program for a few minutes to hear anything he may wish to communicate. We will hear the report of Mr. Markley first.

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

The Committee on President's Address submitted the following report:

To the State Fruit-Growers' Convention:

We, your committee, to whom was referred the President's address, respectfully submit the following report:

We urge all persons interested in fruit-growing and irrigation to carefully consider and digest this able document. We consider it important that the standing Committee on Legislation place in the hands of each member of the next Legislature, just after the election, a copy of the same, urging the Legislature to take proper action upon the recommendations therein contained.

We extend the thanks of the fruit-growers of the State to our President for these annual addresses, and for his constant efforts in their behalf.

JOHN MARKLEY,
W. R. McINTOSH,
A. N. JUDD,
GEORGE L. HUNT,
EDWARD BERWICK,

Committee on Address of the President of the State Fruit
Growers' Convention, Fresno, December 9, 1903.

THE CALIFORNIA VINE DISEASE.

By PROF. NEWTON B. PIERCE, OF SANTA ANA.

The disease about which I have written has been pretty thoroughly worked out in some respects, as to its general characteristics, so I will make only a brief review of the present conditions in the State.

Since the first appearance of the California vine disease in the vineyards at Anaheim, California, in 1884-85, it has never entirely ceased its ravages in the affected districts. Its spread through southern California was very rapid, so that within five years from its first appear-

ance it had ruined at least twenty-five thousand acres of vines in what are now the counties of Orange, Los Angeles, San Bernardino, Riverside, and San Diego. This involved a direct and indirect loss of not less than \$30,000,000.

About five years later, in 1889-90, the same disease broke out in the upper end of the Sacramento Valley, and old Mission vineyards both east and west of the Sacramento River, in Tehama County, died in a single season. Since that date extensive vineyards have been killed in Tehama, Butte, Colusa, Yuba, and Sutter counties, and many others have been practically ruined. Probably five thousand acres of vines have been destroyed in that section of the State since the date named.

A third extensive viticultural center has more recently become affected by the same disease. About 1898-99 the great vineyards of the Santa Clara Valley began to fail in a manner similar to those of southern California and those of Tehama County. The death of vines in the Santa Clara Valley has been rapid over large areas, while toward the east side of the valley and among the Santa Cruz Mountains at the west the destruction has been slower and is still progressing. The affected district includes portions of the counties of San Mateo, Santa Clara, Santa Cruz, and Alameda. It is probable that the loss will amount to ten thousand acres of vines in this district, as nearly or quite that acreage is already affected.

We have then, in general summary, a destruction of forty thousand acres of vines by this disease in the course of the past twenty years—1884 to 1904—and a direct and indirect financial loss to the State and country from this cause of probably not less than \$40,000,000.

In both southern California and the upper end of the Sacramento Valley the California vine disease has destroyed the vineyards wholly independent of the action of phylloxera, which pest, so far as known at present, does not exist in either district. In the Santa Clara Valley, however, phylloxera has been present for some years, so that both diseases must be taken into account in considering the effects in that locality.

A broad study of the appearance and development of the California vine disease in the three great viticultural districts now affected, reveals certain prominent facts that should be noted by those interested in vine growing:

- (1) The disease is more apt to develop in a region where the vines have been weakened by some cause—such as the injury of the root system by drought or excessive moisture, or by sudden changes from one to the other.

- (2) The disease when once established in an epidemic form remains in the affected region in an active state, destroying new vineyards set

from healthy cuttings and showing all of the characteristics of a generally distributed parasitic malady.

(3) There are striking differences, in the susceptibility to this disease, of different varieties and species of grapes, although in the heat of a first epidemic many varieties will die more rapidly or more generally than after the height of the epidemic has passed.

We gather from these general observations certain guiding facts: (a) Vineyards in unaffected districts should be carefully guarded against all weakening influences, as a radical change of moisture conditions, for the prevention of disease is always better than cure; (b) When the disease obtains a foothold its presence should not be ignored, but its effects should be carefully studied with a view of determining the comparative resistance of the varieties and species of grapes already growing in the district; (c) In replanting, only the hardier types should be selected, and in case these vines are unsatisfactory in fruiting qualities the hardiest known root should be planted and top-grafted with the most resistant variety producing the type of fruit required.

At present the vine most resistant to the California vine disease and which is believed by most growers to be of *Vitis vinifera* origin, although this is still an open question, is the Lenoir. Upon its own roots this vine is almost completely resistant, and this is especially true of vines set after the heat of the first epidemic has passed. The raisin grape showing the greatest hardiness is the Malaga. One of the hardiest table grapes is the Tokay. Some of the more resistant wine grapes are the Feher Zagos, Black Malvoisie, Grenache, and Herbemont.

The Lenoir vine has shown such great resistance to the disease that experiments were inaugurated by the United States Department of Agriculture to ascertain its value as a root upon which to graft the more susceptible varieties. Nearly four hundred acres of Lenoir vines have been planted and grafted to other varieties during the past seven or eight years, the work being done by leading viticulturists. The evidence to date is that the Lenoir root greatly aids a more susceptible top variety in resisting the disease, and in case the top graft is of a somewhat hardy variety the combined resistance has thus far proven satisfactory from the commercial standpoint. This work is still in progress, but it is believed that the results already obtained warrant the presentation of these facts to the growers.

A concluding word relative to the nature of resistance may not be inappropriate. Vines which are resistant to phylloxera are not of necessity those which are free from that insect, but they are vines sufficiently hardy to withstand its attacks and still permit of successful viticulture. This is equally true respecting resistance of root and top in the presence of the California vine disease. The disease affects even

the hardiest varieties, although they show various degrees of resistance to its action. Hence, as already stated, the most resistant top should be placed upon the hardiest known root in grafting against the malady.

PROF. PIERCE. I would like to call attention to one thing which I have not mentioned in my paper, and as this is, to some extent, a meeting of Fresno growers, it ought to be spoken of. Something has weakened many of the vineyards about Fresno. Many vines lost their leaves last fall much earlier than they should have lost them. It is apparently not a local cause, but quite general. I looked over this field some weeks ago, and the only thing that I can fix upon as general enough to be responsible for the appearances noted is the lowering of the water-table. Colonel Forsyth has called my attention to that condition, and other leading growers agree with him in respect to the lowering of the water-table, and I believe that the vineyards of this region have been materially weakened in the last year or two, probably within the last year largely, through that cause. This section of the valley has been very well filled with water for several years back, and the vines have established a surface habit of growth, and now that the water-table has been lowered they have suffered, in my opinion at least. This seems to me to be the only plausible explanation. This may not result in widespread death of vines, but it has a weakening influence which prepares your vineyards for an attack of a very serious disease, the one about which we have been reading. The vines here at Fresno are now in a condition where, if the cause of that disease should be introduced, you might lose your vineyards generally, so that I would caution the growers to try and bring back the old conditions, to a reasonable extent, as carefully as possible; do not overdo it, do not bring the water up too soon, but bring it back somewhere near the original level, if possible, and in the future be as careful as may be that this condition is not repeated, because in southern California, in the Sacramento Valley, and in the Santa Clara Valley the weakening of the vineyards preceded this epidemic disease which has stripped those regions of vines. This is simply a caution. I don't believe that you have the disease here at present, and I will give you one of my reasons for so believing. The Lenoir vines growing out east of town are affected as much as other vines with the trouble, and I know, from my extended observations throughout the State where this California vine disease prevails, that that variety is almost absolutely resistant, so that you have something else troubling your vines. If it is not the lowering of the water-table I can not explain it. Just how low the ground water should be I think depends on the habits of your vines.

MR. KNOX. You speak of the lowering of the water-table here. I know that in the majority of places around here it has been thirty

inches from the surface of the ground. Now, I would like to know if that is too high or too low?

PROF. PIERCE. Well, you can establish a habit of growth to suit yourself. If you keep your ground dry you will have a deep-rooted vine; but if the vine has a root system well established close to the surface, to lower the water-table so that you have a space of dry ground beneath the roots is injurious, and you are liable to lose the leaves, and in some cases the vine, from that cause.

MR. KNOX. About the first of March the water was up to within about thirty inches of the surface of the ground, then it began to lower, and in the first part of August it was down four feet; the first part of September it was down six feet, and at present it is nearly twelve feet.

PROF. PIERCE. Yes, sir; and I think that is what injured your vineyards.

MR. KNOX. Wouldn't it be much better if there could be installed a system of drainage that would keep the water-level down to about five or six feet?

PROF. PIERCE. I think so, decidedly, provided your vines were established that way in the first place; but to make a change you lower the water-table more rapidly than the vine can follow it, and when you do that your vine dries out and it is bound to have a weakening influence. Transpiration will cease and the leaves will fall.

MR. KNOX. Isn't it the trouble right now, that we have the high ground water at a certain time of year and then the ground water drops just when the vines need that moisture?

PROF. PIERCE. Well, you are under a system of irrigation, and that should be controlled in such manner as to keep the water within reach of the vines. You used to maintain the water level very high here, and I thought it would be a better thing for the vines if the ground water could be kept down to about five feet. Whether the roots of your vines would go down to that depth depends on whether you lower the water too fast. If you do, they couldn't follow. If you keep it so as to gradually lead those roots down you will have a different root system in time, but the trouble is to do that.

MR. FIDEL. I should like to ask the Professor if he ever noted an improvement in the condition of vines which have suffered from this disease?

PROF. PIERCE. Oh, yes. It is a common thing for vines to be stripped of leaves in the fall and to come out again apparently fresh in the spring.

MR. FIDEL. We have had vines affected for a year or two, and some seemed to die rather suddenly and some seemed to keep on growing, in a half-hearted way, but they do not die.

PROF. PIERCE. Where are you from?

MR. FIDEL. The Santa Cruz Mountains. It does not seem to spread around the originally infected vines. It seems to jump.

PROF. PIERCE. Yes, the California vine disease seems to strike a vineyard in a sporadic manner, without any regularity. It does not spread the way phylloxera does, but the action of that disease has been so thoroughly described in publications that I have omitted describing it in this case. I did not think it necessary. There are a number of fungous diseases which cause vines to die. We have one that is a native of this country, and one that has been introduced from France, but which has not become widely distributed as yet. The native disease is common, but I do not find many vines suffering from it. A great many fruit trees have died from it. It is a parasitic fungus, that is, the kind I am speaking of. Of course vines die from a great many causes, but the parasitic fungus causes the roots to rot. It is liable to spread and is usually found on old oak trees when you dig them out, and if you put in vines it will kill them off. It spreads from one vine to the other just the same as the phylloxera.

MR. MCINTOSH. Has any progress been made in southern California in replanting vineyards after they have been killed by the Anaheim disease?

PROF. PIERCE. Very little. In the southern part of the State a few growers have planted Lenoir vines. Those vines are all right, and some of the other more resistant types are in pretty good condition at present, but most of the vines which they have planted have been of weak stock and nearly all of them have succumbed to the disease, in some cases the third and fourth planting.

THE RAISIN OUTLOOK.

By T. C. WHITE, OF FRESNO.

The raisin outlook, as it appears to me, is anything but encouraging to the raisin-growers of California, for two reasons: (1) There are from ten to twenty per cent of the growers who are not members of the California Raisin-Growers' Association; and, (2) There is an apparent overproduction, which seems to be increasing from year to year, as newly planted vineyards come into bearing.

The first reason is, perhaps, the most serious, for if the growers were all members of the Association the second reason would to a large extent be obviated. If all of the growers were in the Association, so that we could present a solid front to the trade, set a fair and reasonable price upon our product, supply the consumptive demand with as many goods as it requires, and, should there be a surplus, dispose of it to the distilleries and for other purposes at highest obtainable prices, the loss prorated among all of the growers would be a mere bagatelle and the net

result would be satisfactory. But, alas! the "outside" growers are among us, and they seem to be here to stay. The "outside" grower is practically the only drawback to the successful operation of the Association, and, from my observations, it is the outsider who is the menace to the successful operation of co-operative organizations wherever these associations have been attempted. To attempt to run an organization of producers with from ten to twenty per cent on the outside, is like a man trying to swim with a millstone around his neck.

There has been an overproduction of raisins at different times during the history of that industry, but at no time has the supply and the demand been so far apart as they seem to be at the present time. In 1881 to 1883, there was an overproduction for the reason that our market did not extend east of the Sierra Nevada Mountains; but by persistent advertising and by forwarding samples, etc., the trade in the East was made to realize that the California product was fully equal to the Spanish article, our market was extended, and the overproduction vanished like chaff before the wind-storm. As prices were improved by the opening of the Eastern market, planting again revived and raisin-growers prospered until 1893-94, when again the supply was more than equal to the demand. This condition of things, in conjunction with the financial panic which swept over the entire face of the globe, was the means of depressing prices to the extent that growers were compelled to sell their crops for less than the cost of production. This state of affairs continued until the California Raisin-Growers' Association was organized, which was in 1898. From that time to date (with the exception of one year) growers have prospered; but during this period, planting has been more extensive than ever, and to-day we are confronted with an overproduction which is more serious than ever, and the only solution of the problem, as I see it, is either to seek foreign markets for the surplus or to induce every grower in California to join the Association.

To attempt to compete with the foreign article in foreign markets, with the enormous difference in the cost of labor against us and with freights and import duties to pay, would be like attempting to make water run up hill; yet it would be possible to dispose of our surplus in this way if there were no outside growers to contend with; but the outsiders (being from ten to twenty per cent of the whole) as the crop increases in quantity will soon have enough raisins to supply the early market, and if the Association would hold the umbrella for them until they have sold out, this condition of things would have a tendency to increase the number of outsiders, and the result would be that we would have no association, and consequently no price.

The Raisin-Growers' Association has done a great work in extending our markets, and by advertising in different ways has made some progress

in increasing consumption. The seeding of raisins has also done much to stimulate the use of raisins as a food product. We have supplied small sample boxes of seeded raisins to numerous expositions, conventions, and the like, for free distribution. In addition to this, the Association has distributed broadcast, in packages of seeded raisins and otherwise, recipes for the use of seeded raisins as an article of food; yet, while the consumption is increasing to some extent, it does not seem to keep pace with the production.

Assuming that the old adage, "The supply and the demand will regulate the price," is correct, and admitting that the supply is fully equal to the demand, were it not for the Raisin-Growers' Association sustaining prices the growers would be in competition with one another, and it is safe to predict that prices would be not much above the cost of production.

Let us then discourage further planting until such time as we can see our way clear to dispose of the present output, or at least until such time as the Association shall represent the entire acreage of California under its control.

As I have said, at different times during the history of this industry we have had serious overproduction, for different reasons, but this time it would seem as though we had gotten pretty near to the end of our rope. I have suggested a remedy, and if that remedy is adopted I believe it to be a solution, and the only solution, of this problem, and that is to induce practically every grower in the State of California to join either the Fresno Raisin-Growers' Association or a similar association, or some sort of association as suggested by my friend Mr. Sprague last evening. We should adopt the best plan, whatever it may be, in order that the entire industry should be under the control of some association with power and influence. Whenever the supply more than equals the demand, as I have said, then the price is bound to be reduced to the minimum. Now we all know, I presume, that the orange-growers, the growers of deciduous fruits, and all the fruit-growers of California are experiencing this very thing, are facing overproduction. Now, what are you going to do about it? My judgment is that the right thing to do is to encourage co-operation among the growers, to promote the organization of small co-operative associations, wherever they can be organized. Let the members induce all their neighbors to join, and then go into a central organization; have all the fruit industries of California go into some organization of co-operative companies, and then have, as the workingmen do, a federation of all those co-operative companies, and all unite in building up these industries in different ways and in sustaining prices. For four years prior to the organization of the California Raisin-Growers' Association the raisin-growers of this country were selling raisins for less than the cost of production.

There is no question about that. The average price received did not exceed $1\frac{1}{2}$ cents per pound in the sweat-box, and any raisin-grower within the sound of my voice will testify that raisins can not be produced for less than $1\frac{1}{2}$ cents per pound. The Raisin-Growers' Association was organized in 1898. The first year was an experiment. Some attempts had been made before, all of which were failures. Co-operative companies were organized all over the country, fifteen or twenty of them, and a central organization was formed for the purpose of marketing; but the commercial packer was on the ground, and the commission man was with us, offering cash in the sweat-box. Cash for raisins in the sweat-box is a very forcible argument, and the commercial packer got the best of it. Up to the time the Raisin-Growers' Association was organized, these little co-operative companies had gradually decreased in power and in number and they commenced to go out of existence, and finally when the Raisin-Growers' Association was formed they were taken in as a part of that Association, and in 1898 the first result of the Association was that the grower received 3 cents per pound in the sweat-box for his product, which was double the amount he had received during each of the preceding four years. We regarded that as a pretty good start, so it was decided to continue the next year. The result was that the grower received 4 cents per pound, and he has received 4 cents per pound ever since the Association has been organized, excepting the first year, as I have stated, and one other year, which was 1901, when he received a little less than 3 cents a pound. The present year there has been something said as to whether or not the Association will succeed as it has in former years. We have gone only two or three months into the season's business, and I will say that up to date the demand for raisins has been almost as great as in any other season up to a corresponding date during the history of the Association. We have already paid to the growers from the actual sales of raisins—not from any money borrowed or anything of the kind—\$2,000,000. We have on hand about \$2,500,000 worth of raisins which are equal in quality to any the State has ever produced, and in all probability we will distribute among the growers over \$2,000,000 more by the time that product has been disposed of. Sales have not been, perhaps, as extensive up to this time as they were last year, but conditions are different. The financial condition in the East is such that buyers are not purchasing for speculation, nor are the jobbers loading with stocks of goods, and I presume that the prune-growers, the orange-growers, the growers of deciduous fruits, the salmon canners, and the canned-fruit dealers are all experiencing the same condition of things. There is no speculative demand. It is simply a demand for immediate consumption. In my judgment the Raisin-Growers' Association was never in better condition than it is now. We

have the largest crop of raisins the State has ever produced, by more than 5,000,000 pounds. Last year we produced the next largest crop, 106,000,000 pounds, and this year it is estimated—and we can make a very close estimate at this time—that we will have 110,000,000 pounds of raisins to dispose of before the end of the season. The beginning of the raisin business in California was in 1873, and that year only 120,000 pounds of raisins were produced. The consumption of raisins in the United States is practically the same as it has always been in proportion to population, but when the production was small the balance of the requirements for consumption was met by importations from Spain. We have imported from 30,000,000 to 40,000,000 or 50,000,000 pounds per annum. The average consumption of raisins by the American people is not much more than one pound per capita. Now that we have eighty millions of people in the United States, the demand for consumption is about 80,000,000 pounds of raisins per annum, whether we produce them or whether they are imported. Now, if we are already producing 110,000,000 pounds, isn't it safe to predict that we are producing raisins enough to supply the demand, and isn't it right and proper to discourage further planting until we can see our way clear to dispose of the present production?

PRESIDENT COOPER. I have been told that the Governor is present. If so, will he please come forward?

The coming spring will mark a period of twenty-four years since the horticultural law was created. In the first year we shipped one carload of fruit across the continent. Last year we shipped about 50,000 cars. The bulk of the increase does not extend back more than twenty years, showing that the increased exportation from California across the continent is about 2,500 cars per year. Calculating, therefore, the continuance of such increase for twenty years more, we will, at the end of that time, probably ship 100,000 cars of fruit. I saw it stated in the "Fruit World" that, including the vegetables exported, there will be 77,500 cars shipped this year, so that we can fairly calculate that in twenty years more we will ship across the continent more than 150,000 cars of fruit and vegetables. Last year the transportation companies were paid a little over \$19,000,000 for the transportation of fruit, so that when, in the near future, we ship 150,000 cars of fruit and vegetables, we will have to pay about \$50,000,000 to the transportation companies annually, and one would suppose that those companies would be very keen to get that money. During this period of increase we have overcome many difficulties, but we have still greater difficulties to overcome. There has been no time in the history of fruit-growing in California when advice and wise counsel were more needed than at present. Three times during these years—this is the Twenty-ninth Fruit-Growers'

Convention since I became President of the first Board of Horticulture—we have been honored by the presence of the Chief Executive of the State. It does me great pleasure to introduce to you this morning Dr. George C. Pardee, Governor of California.

ADDRESS BY GOVERNOR GEORGE C. PARDEE.

The chairman of this meeting, who is also Horticultural Commissioner of this State, has been good enough at various times to come into my office at the State Capitol and endeavor to discuss with me matters which are of the greatest importance to you and therefore to this State. I say "endeavor to discuss," for the reason that the discussion is altogether one-sided, I knowing very little or nothing of the matter, and he being, as it were, a past master in the art; but I find that there are various matters and various problems which should receive, and will receive, that due attention from the people of this State and from the government of this State which their magnitude deserves. The question of transportation seems to me, as far as one can judge who is so far outside the pale as I, to be of the utmost importance to you. We have now traversing the State two great railroad systems, both clogged, each utterly unable to take care of the business which California now offers them. Instead of taking your products and the products of your brethren in this horticultural business quickly to the markets where you desire them to go, a length of time for that purpose is required that practically takes from them the value that should be yours. The question of pests upon your vines and fruit trees I assure you is one which is receiving the full attention of this State. We feel that anything which will militate in any way against the success of your endeavors and your business is doing an injury to this State, which the State itself should do everything to work against. Therefore, gentlemen of the Convention, I wish to assure you that the government of this State is alive to the difficulties of the situation that you are facing and is willing, aye, is glad, welcomes the opportunity, to do whatever lies in its power to forward your business and to make your ventures more profitable. (Applause.)

Time was, almost within the memory of him who now stands before you, when California's wealth was confined entirely to the products of her mines; when her soil was considered incapable of supplying even the wants of those who toiled to bring forth to the light of day the golden treasures that nature, working in the slow revolving lapse of countless centuries, had laid safely down in California's apparently sterile soil. Our rainless summers and our snowless winters were not regarded as favoring the art of the husbandman by those who early came to California's far-off land, lured by the tales of our El Dorado just discovered. Even Webster, one of the greatest men this nation

ever had, looked upon California as not worth the having. And it is a curious thing to read in his great speech on "The Objects of the Mexican War," delivered in the Senate of the United States, when the Sixteen Million Loan Bill was under discussion, on March 23, 1848, these words in reference to what is now the great State we love so well: "And how is it with California? We propose to take California, from the forty-second degree of north latitude down to the thirty-second. We propose to take ten degrees along the coast of the Pacific. Scattered along the coast for that great distance are settlements and villages and ports; and in the rear all is wilderness and barrenness and Indian country. But if, just about San Francisco, and perhaps Monterey, emigrants enough should settle to make up one State, then the people five hundred miles off would have another State." And again, in the course of the same great speech: "I can not conceive of anything more ridiculous in itself, more absurd, and more effrontive to all sober judgment, than the cry that we are getting indemnity" (for the Mexican War) "by the acquisition of New Mexico and California. I hold they are not worth a dollar; and we pay for them vast sums of money."

And, on June 27, 1850, again addressing the Senate on the proposed admission of California as a State, Mr. Webster said: "The Senator says that the territory of California is three times greater than the average extent of the new States of the Union. * * * We all know that it has more than three times as many mountains, inaccessible and rocky hills, and sandy wastes, as are possessed by any State of the Union. But how much is there of useful land? How much that may be made to contribute to the support of man and of society? * * * I am sure that everybody has become satisfied that, although California may have a great sea-board, and a large city or two, yet that the agricultural products of the whole surface now are not, and never will be, equal to one-half part of those of the State of Illinois; no, nor yet a fourth, or perhaps a tenth part. * * * There is undoubtedly a long valley on the Sacramento and San Joaquin of tolerably good land, and there may be some good land between the coast mountains and the sea; but, on the whole, nobody will say that, in quantity of good land, or of tolerably good land, there is any excess; on the contrary, there is far less than belongs to most of the new States. * * * So small are the streams, when you depart from these two rivers, the Sacramento and the San Joaquin, that they do not supply water for the cultivation of the very small portion of the land that otherwise might be made tillable. What, then, will be the value of this territory? * * * Where is there any value in it? * * * Can it be of any use whatever?"

Is it any wonder, then, when they listened to the words of America's foremost man, prophesying the failure of any attempt to populate the land we now possess, is it any wonder, then, that those who came to

California, as did the Pioneers, to gather up the gold that called them hither, intended only to spend a few months here amid the wastes and deserts of an inhospitable territory, and then, enriched by what they found, go back to live in peace and luxury amid the torrid summers' heat and killing winters' cold that beat upon the States from whence they came? To them the summer's drought, the brown hills, the parched valleys, the dry creeks, the long months of rainless sunshine, preached eloquent sermons and corroborated the pessimistic views of him whose giant intellect o'ershadowed all who sat with him within the Nation's Senate chamber. No wonder, then, that he who sought to set the plow to California's fallow acres and scatter seed upon its barren fields was looked upon by the hardy sons of other climes as worthy of the jibes and jests so freely showered on him. No wonder that your earliest predecessors were scoffed at and held up to ridicule by those whose only notion of California was that of El Dorado, to be quickly robbed of all its treasures and then abandoned to the desolation that had been and must forever after be its only heritage. And yet they persevered, those stubborn men who loved the soil and were not dashed by prophecies of certain failure. They looked upon the small attempts at agriculture, horticulture, and viticulture that the ascetic padres of the Missions had unconsciously set them for their lessons; they found that all the cereals, planted in our virgin soil, sprung forth to greet the winter's fructifying showers, and warmed and hastened by our genial springtime sun, returned an hundred and a thousand fold to him who trusted nature wholly; they put the vine and the fruit tree in the goodly soil, and saw such growth as made their doubting comrades open wide their eyes in wonder; they found that, where so many failed in finding gold enough to satisfy their greed and need, no failure came to him who, with a reasoning care, trusted all his future fortune to Pomona, Ceres, and Bacchus; they found, in short, that of California's 100,000,000 acres there were over 30,000,000 as productive and as fat as any others that could be boasted of by any other land or people. Where, then, are all the prophets of evil who were so free to class California with desert and with wastes? Where, then, are those who would have had this nation refuse to accept from Mexico this land, greater in extent than all New England, with forests such as compel the wonder of all who are fortunate enough to behold them, with a mineral wealth that, in the nation's hour of greatest need, supplied the wherewithal that kept her credit good and preserved us all a nation one and indissoluble, and with a soil that, hardly yet one-tenth occupied, supports in comfort and luxury a million and three-quarters of happy and contented people?

Of southern California, Webster said: "Gentlemen will please to remember that, in that part of California, eight months of every year

roll on without a drop of rain falling, and there is not within the whole of it any land whatever that can be cultivated without irrigation.

* * * Can it be of any use whatever?"

And yet within that very territory, from which, in 1850, it was proposed to make the "Territory of Colorado," our brother and our sister Californians have fairly wrought a miracle. No longer depending upon the fitful and uncertain favors of the god of showers, those people of the south have wedded to the desert the water which, before their advent, went to total waste. And from that happy mating of flood and field springs every year a fruitage that has drawn the eyes of all the world toward California. Where, but a short quarter of a century ago, the wild things ruled a desert land, where only clouds of dust obscured the sun, but where now his brightness is o'ershadowed by the smoke that rises heavenward from thousands of domestic altars, where then the widely scattered villages, clustering about the decaying walls of mission and of monastery, now have sprung into being, like unto the magic of Aladdin's tale, great cities, proud and wealthy as the metropolis of ancient Greece; cities that, like Rome and Carthage, command the willing tribute of a kingdom; cities that one who saw the land on which they stand given over to baser uses, fairly scans in open-eyed amazement and wonders lest he may be dreaming. And, tributary to these cities, the golden globes of orange and of lemon dot the soft and restful green of many townships and furnish widespread comfort and luxurious wealth to thousands who have made them theirs.

The wealth that made our pristine name and fame came first from out the bowels of the earth. Our common mother, kind to all who live beneath the California sun, gave up her treasures with a willing hand and made our land the Mecca of the treasure-seeker. Not yet exhausted, even only partly conquered, the wealth that California gave, in sounding metal, to the treasuries of nations, is only part of what she still is giving and will always give to him who asks her for her favors. You, gentlemen of the Fruit-Growers' Convention, have given California equal fame with him who, in our early days, came westward with the tide that brought us men of mighty deeds. On you, your predecessors and your successors, California looks with jealous and with loving eyes. The miner, typical of California's early name and fame, sits safely in the temples of our enduring love. But on a throne of equal height and equal splendor, toward which we all with glad eyes turn and pay our homage and our gratitude, sit serene and safe, within our heart of hearts, the men and women who till the patient California soil and at whose command the complaining locomotive takes, to other and less favored lands, the wealth which you have made another synonym for California.

It will not, then, be very long before, following your lead, our valleys,

at which our erstwhile great men so cavalierly scoffed, will support a population such as only California can. Where now there are but tens of thousands, millions will enjoy the blessings so freely showered on us by an all-obliging Nature. To you, who have so nobly done your part toward California's greatness, we owe our thanks and grateful recollections. And to you, who represent so large a part of those we hail as "friends and Californians," we freely and gladly offer them. (Applause.)

MR. STEPHENS. Mr. Chairman, I move that a vote of thanks of the fruit-growers of California be given to our honorable Chief Executive for the assurances which he has just given us that, so far as in his power lies, everything will be done that can be done to promote the interests of horticulture in the State of California. I believe that it is our duty, and it should be our pleasure, to do this, because it is the first time in my memory or my knowledge that the Chief Executive has come to the rescue of the fruit-growers of the State.

Carried unanimously by a standing vote.

PRESIDENT COOPER. I take pleasure in introducing to you Dr. Chester Rowell.

THE PRODUCTION OF WINE AND RAISIN GRAPES.

ADDRESS BY DR. CHESTER ROWELL, OF FRESNO.

The production of grapes is almost coextensive with the civilized world. Grapes are almost as universally produced as is either wheat or potatoes. Some kind of grapes is grown from the tropics to the arctic circle. Wine is made from grapes produced almost anywhere in the world, but the production of raisin grapes is confined to very limited localities. There are but few vineyards in Italy where the raisin grape is produced. Wine grapes may be produced, as I have said, as far north even as Lake Superior. The extreme northern parts of France will produce them, but will not produce raisin grapes; while the whole of the interior of Spain will produce wine grapes, there are comparatively few spots even in that country which will produce the raisin grape, as it requires different climatic conditions and different soils, and is produced in a different way to wine grapes. Raisin grapes differ from wine grapes in their cultivation, in their management, and in their life. Our consul at Genoa informed me, in conversation, that the most valuable lands in Italy are those which will produce the raisin grape, but the life of the vine is short, and its history is the same since we have any knowledge of it. Its productive life is about twenty-five years, as I have been told by those best informed on the subject in Spain; its profitable, productive life, cut back as the vine is annually nearly to the ground and its life thereby shortened, is about twenty-

five years, after which the grapes begin to deteriorate in quantity and in quality, and eventually it is necessary to remove the vines in order to plant the ground with something else for two, three, or four years, when the raisin grape may be again planted and will have another twenty-five years of life. Not so with the wine grape. Some vineyards in the south of France are a hundred years old and produce well; many individual vines are several hundreds of years old and still produce fruit. We find, even in our own State, that the raisin grape is nearly always planted as an industry; the vineyards are planted and cultivated intensely for the production of raisins. Our own older vineyards are growing less and less productive. The production of wine grapes generally in nearly all parts of the world where they are produced is not a distinctive industry, but simply an adjunct to something else. On every little farm in Italy and on almost every farm in France and Spain you will find a little vineyard that produces wine, but it is only an adjunct to something else. Nearly every man sits under his own vine and fig-tree, every man makes his own barrel of wine, but the land is also made to produce something to live upon as well as something to drink.

It has been said that in this great country, where almost every acre of land will produce raisins and wine, we will soon overdo the production of wines and raisins. I believe that the California Wine-Growers' Association is insisting that there is already an overproduction of wine, that there should be an effort made to stop the planting of grapes. It is also said that there is now an overproduction of raisins. These matters, in my judgment, will adjust themselves. We haven't begun to produce wine grapes. The whole State of California will produce wine grapes, of an excellence and in an abundance that no other part of the earth can equal. The American people have not become wine-drinkers, but the great bulk of the people of the Old World are wine-consumers, and the world will be our market. With our American market alone there may be a temporary overproduction, but the market will adjust itself, just as the production adjusts itself. Eventually we will have the world for a market, and every hillside and valley in California will be made to produce the wine grape as well as almost all the other fruits produced in semi-tropical regions. The same as to the production of raisins. There will be a time when our American market will not take them, but there is comparatively a small part of the world that will produce raisins. Right here in this great, broad, hot San Joaquin Valley is the one ideal spot in which to produce raisins. Algeria produces a few, Brazil may possibly produce a few, and there are other parts of this western coast where you may produce a few raisins, but there is no part of the world that will produce them in the perfection that we do here, and there is no very great part of California outside of this valley

that will produce the raisin grape successfully. Long after this generation has ceased to live the raisin will be produced here in its excellence, just as it has been on the Mediterranean hills and in Spain for a thousand years. Consumption will increase and the markets will adjust themselves. In time that part of California adapted to the cultivation of wine grapes will be producing ten times, yes, a hundredfold, more wine than we produce now, and this part of California which is particularly adapted to the production of raisins will continue to produce raisins, and the most valuable land in the world will be that land which is best adapted to the production of first-class citrus fruits and first-class raisins. The most valuable land that I found anywhere in the world was that producing the very choicest of oranges, sometimes with a value even of \$1500 to \$2500 an acre, except a little land on the island of Jersey, where they produce vegetables, some of that land bringing enormous prices; but of vine lands the most valuable and most productive and most salable were those producing the choicest of raisins. I can only add this one word of encouragement: Those of you who have vines and who produce grapes need only to stay steadfastly with the production of grapes as an industry, and it certainly will never disappoint you, because it is bound to become one of the most important industries.

RESOLUTIONS RELATIVE TO A PARCELS POST.

MR. BERWICK. Mr. Chairman, I have some resolutions I would like to read now. May I read them before handing them to the committee?

PRESIDENT COOPER. Yes.

MR. BERWICK. The resolutions are as follows:

WHEREAS, Our postal service is at present lamentably deficient in the matter of an up-to-date foreign and domestic parcels post; and,

WHEREAS, The American express companies have found it possible to inaugurate for the British postoffice a postal stamp rate, on British parcels, of 25 cents for 11 pounds, to any postoffice in the United States, thus proving the practicability of profitably doing the business at such a rate;

Resolved, That this Convention of the fruit-growers of California, assembled in Fresno city, this 9th day of December, 1903, hereby requests its Senators and Representatives in Congress at Washington, D. C., to introduce and support such measures as shall secure for the American citizen, through the United States postoffice, a parcels post at least as cheap and effective as that now afforded by the American express companies to the Briton.

Resolved, That this Convention also requests the President, in conjunction with the Postmaster-General, to conclude postal conventions for the handling of parcels up to 11 pounds weight, with all the nations who are at present members of the International Parcels Post Union; this on as favorable terms as those enjoyed by the citizens of Mexico and European lands.

THE WINE INDUSTRY AND ITS FUTURE PROSPECTS.

By PERCY T. MORGAN, OF SAN FRANCISCO,
President of the California Wine Association.

After fifty years of hard and intelligent effort on the part of handlers of California wines the industry has been established on a firm basis. The quality and general excellence of the product are no longer in question.

Wine-drinkers in this country, unfortunately, form but a small minority, but a great proportion of the wine they consume is of domestic production. California alone grows and markets over ten times the total quantity that is imported from abroad, while Eastern vineyards, also, produce a great quantity that finds a domestic market.

The per capita consumption of wines in the United States, however, does not equal one-fiftieth of that of wine-drinking countries like France and Italy. Consequently the field is not as wide as might be desired or at all in consonance with the great possibilities of California as a region in which wines of the highest excellence can be produced. If the per capita consumption of the United States equaled that of France, there would be a domestic market for over two thousand million gallons of wine, and almost every rolling hill and fertile valley of California could be profitably covered with vines.

In France, a country with a population of but little over one-half that of the United States, there are 4,250,000 acres of bearing vines; from which it will be seen how comparatively insignificant the United States is as a wine-producing and wine-consuming nation.

The future of the California wine industry is principally, if not entirely, dependent upon an expanding market. Whenever the demand, be it domestic or foreign, shall exist, a vast acreage in California suitable for the growing of wine grapes can very soon be brought into bearing.

For two or three years past a brisk demand for wines from first hands, caused by a succession of short crops, has given a great stimulus to grape planting, and a considerable area—estimated by some as high as 70,000 acres—has been planted to vines, principally in the sweet-wine districts, extending from Yolo County in the north to San Bernardino County in the south. The greater part of this new acreage was planted to wine grapes, though some portion was table grapes, which in late years have given such phenomenal returns.

In 1902 the vineyards then bearing gave an enormous yield, and, at the beginning of the 1903 vintage, cellars were crowded with previous years' wines. The prediction freely expressed, that the grape yield would equal that of the previous year, filled wine-makers with feelings akin to dismay, for another such vintage as that of 1902 could only be

housed with a great increase in holding capacity, and inquiry developed that there was not sufficient seasoned cooperage stock obtainable to make any very considerable increase in tankage. The financial outlook, also, was not favorable; and rumors that a repetition of the previous heavy production might cause a drop in prices did not tend to make bankers as anxious to open their coffers to provide funds as generously as they did last year, when in a few weeks they advanced several millions to take care of the heavy vintage.

Among sweet-wine districts this year the wine crop of southern California was quite heavy, and that of the extreme northern grape-growing section was also large; but in the Fresno district, the alternative presented by a favorable drying season and the prospect for high raisin prices caused a great many growers who were dissatisfied with winery conditions to put on trays grapes which have gone formerly to wineries, so that the total sweet-wine yield will, most fortunately, be considerably less than in 1902, and it is hoped that a fair equilibrium in prices may be maintained.

In the dry-wine districts, crop predictions have been fairly well realized, and while the yield was not so great as in the phenomenal vintage of 1902, it was far above an average, and when the vines approach maturity within the next two years concerted action will be necessary to keep up the favorable market conditions which have prevailed for several years past.

Interest, taxes, insurance, and evaporation cut so large a figure in the expense of carrying on the wine business that the initial cost of grapes from which is made wine that has to be carried for a long time, becomes a matter of considerable moment to the wine-maker.

The unexpected and almost unprecedented occurrence of two heavy vintages in succession tended this year to make wine-makers whose cellars were filled with wines from previous vintages, very cautious in buying grapes.

The price for dry-wine grapes dropped considerably below that of the previous year, and while the price for the last two years, taken together and averaged, was quite remunerative, grape-growers who had anticipated a continuance of the higher range of prices shared the disappointment of wine-makers who, judging from previous experience, believed that a short crop would succeed such an abnormal yield as that of 1902, and had held their wines in anticipation of more remunerative prices, in place of which they stand to face a considerable loss.

The wine industry in the last few years has suffered a disappointment in its expectation of an increase in consumption. The Philippine Islands, from which great things were expected, have taken practically nothing from us. Porto Rico, instead of a large market, has proved to be such a small consumer as to be an entirely insignificant factor.

Cuba, in which the consumption of wine is very large, is and apparently must remain practically a closed door to California wines, because we can not compete in price with the wines which are shipped there from Spain. Within the United States the consumption of California wines has shown but little increase in the last four years, if we are to take as competent evidence the only records at our command, namely, the statistics of railroad and sea shipments.

Whether this condition of affairs is due to the raise, made about three years ago, in the price of wines, or whether the production from the heavy acreage of Eastern vineyards planted in late years has filled the increase in consumption which should naturally follow the known increase in population in this country, it is difficult to determine, but the fact remains and must be recognized that unless a change occurs it will be extremely difficult within the next two or three years to profitably take care, through wine channels, of the yield of the new sweet-wine grape acreage which will come into bearing. Should a surplus of grapes be produced every grower will have to face the problem of how to find profitable uses for his product.

This year's experience seems to point to the conclusion that although the raisin-growers are banded together in a closer combination than ever before, managed by competent men of their own choosing, it is quite possible, even with the existing bearing acreage, to produce a greater tonnage than the market will readily absorb at reasonably remunerative prices.

Growers of table grapes, however, have, I understand, experienced another profitable year, and some of the increased acreage may here find a remunerative field.

The wine men discovered last year that vineyards now in bearing can produce a very large quantity of wine, and nothing but the great financial strength of their organization, with its consequent ability to hold the product without being forced to sacrifice it, has prevented the arising of conditions which, in their reflex action, could not fail to seriously affect the grape-grower.

The question, therefore, which may arise is: How shall we take care of the product of the new acreage when it comes into bearing?

Can wine be made at a price low enough to compete in foreign fields or limit the consumption of the Eastern product?

To what extent can grapes be dried so as not to overstock and depress the raisin market?

To what extent can grapes be shipped green to Eastern markets without making the present profitable conditions for table grapes disastrously the reverse?

Does it not appear that all these contingencies must be considered when the 70,000 new acres bring their additional yield of grapes into the market?

It is true that disease may decrease the yield of the old vineyards, and may even destroy some of the new ones, but still there will ere long be a heavy additional tonnage to be taken care of. This should not come upon us unawares. We should prepare for it thoughtfully and scientifically; not by blaming the raisin directors because they can not accomplish impossibilities, nor by execrating the wine men because they are obliged to be conservative with the capital intrusted to them, for were they not so the alternative would soon present itself of no capital being offered them to carry on their business; not, in a word, by all the time hunting up some other fellow upon whom to lay the blame for conditions for which nature alone is responsible, in generously making the vines to grow and the soil to produce, but by all getting together and talking, planning, thinking, and dreaming over a business-like solution of the problem.

It is not difficult for the ordinary man to be prosperous in times when consumption takes care of production, but it takes a cool and wise head not to get lost in times when the yield exceeds the demand. We may hope that such an eventuality will not arise, that something may happen within the next two or three years, either by increased consumption or by some new conditions which at the present moment we do not foresee, to prevent it. But if it does occur we must be prepared for it by alternatives which will enable us, by some concerted action, to get rid of the surplus and retain the value of what the market will take at remunerative prices.

Many propositions have been advanced; some impractical, others, perhaps, more practical, of which the following are examples:

Shall a portion of the grapes be contributed in equitable proportions to be made into concentrated must for shipment abroad and to be sold for what it will bring?

Shall a portion be made into wines for export to foreign countries for joint account, and sold at the best obtainable figure?

Shall new fields be exploited in unfermented grape juice, for which quite a considerable demand has been created by Eastern growers, or, as has been suggested, in the manufacture of fruit syrup to take the place of maple and glucose syrups at present used for table purposes?

Shall an attempt be made to educate the temperance people that the truest solution of their problem is to promote the use of light California wines as a means of checking drunkenness, and through the correct interpretation of their chosen name, namely, "temperance," to use the gifts which God has bestowed upon us?

Drunkenness is never prevalent, in fact is almost unknown, in countries where light wines alone form the staple beverage; it is only where the drinking of the stronger forms of liquor is practiced, that the abuses abound which these honest and well-intentioned people so vigorously deprecate and endeavor to allay.

All these questions should be agitated, and agitated earnestly. Some good work in this direction is being done by a concern styling itself the American Grape Acid Association, which, in its endeavor to find a means of producing here, instead of importing from abroad, the cream of tartar that is consumed in great quantities in the United States, has offered a prize of \$25,000 for the discovery of a process which will make tartaric acid in paying quantities as a direct product from grapes. That its efforts may be crowned with success is a consummation devoutly to be desired, and every grape-grower should assist the aforesaid concern in its laudable work, for if it accomplishes nothing else it will, by its extensive distribution of pamphlets, have advertised California in a splendid manner all over the world.

The foregoing remarks on a possible overproduction of grapes apply particularly to sweet-wine districts, and are dwelt upon in this address because this Convention is being held in the great sweet-wine center.

In dry-wine districts, while it is unlikely that the price of grapes can be sustained at anything near the high prices of the 1902 vintage, there is little reason to fear that the growing of dry-wine grapes may become unprofitable, for the difficulty, expense, and time required to bring a resistant vineyard into bearing are considerable, and no such heavy increase, therefore, in new acreage within a limited time can be anticipated as in the sweet-wine districts. Diseases prevalent in dry-wine counties are more likely, also, to keep the average production within reasonable bounds.

Two years, and even one year, ago I earnestly believed that a large production of dry wine from existing vineyards was an impossibility, and I still believe that the present full supply can, by concerted and sensible handling of the situation, be profitably absorbed through future smaller vintages.

But vines have proved themselves to possess such wonderful recuperative powers that guessing on their prospective yield has become an unsatisfactory business; so that beyond expressing the firm opinion that the planting of grapes in dry-wine counties will prove fully as remunerative for many years to come as the raising of almost any other agricultural product, I feel very chary of making prophecies.

In conclusion, I desire to say a word on arrangements for so-called reciprocity with other nations. If you do not keep a watchful eye on your own interests it is not likely that the present or any future national administration will remember that, while preëminent as the "land of sunshine, fruit, and flowers," the State of California is of sufficient importance politically to be seriously considered when making arrangements with foreign countries. Votes in politics count like dollars in business, and if through disregarding your interests a reciprocity agreement can gain *three* votes where you can furnish only *one*

or *two*, you must not think that, in politics any more than in business, sentimental questions will be allowed to interfere. Reciprocity is not dead; it is only sleeping. Do not sleep, also, but by being watchful and combining the whole Pacific Coast, and any other section or State on such questions, get the votes and the influence which California alone can not muster. Your own Senators naturally prefer to be on the winning side, and if you do not keep up a clamor and vociferously assert your claims and rights they are more likely to see their interests through administration eyes than through those of their constituents.

Cuban reciprocity, which your last Legislature refused to instruct your Senators to vigorously oppose, and which has been allowed to pass Congress practically without a protest, will cause you to rub your eyes and wonder how it all came about when, in five years from now, agricultural products, citrus and other fruits are pouring into your own country's great consuming markets and elbowing out the products of California. And it will, unless you take more interest in such matters, be followed by other treaties or legislation favoring some other section of the country or some other interest at your expense.

A late inquiry, referred to the proper department in Washington, which, being unable to answer it, suggested referring it to the Consul-General of Cuba in New York, developed the fact that the small preference which we imagined we had under the Cuban reciprocity treaty is rendered, by a trick of words, inapplicable to dry red wines, and therefore California is practically excluded from all benefits of that treaty, while yielding on citrus and other fruits extraordinary benefits to Cuba.

Few of you probably understand that while the French, German, Portuguese, Italian, and other tentative reciprocity treaties have never been ratified by Congress, wines from these countries are being admitted into the United States, through presidential proclamation, at from 12½ to 30 per cent less than the full duties prescribed by the Dingley tariff law.

In other words, it will be California, always California, that will get the shells while other sections get the kernels of administration favors.

By such methods, unless you are much more wide-awake than you have been in the past, you may one day find that, instead of invading foreign markets with California wines, you will have to fight to keep your home consumption from being ruinously invaded by some foreign product.

Therefore, I say, do not peacefully slumber, depending entirely on nature's bounteous favors for your prosperity, but demand of your Senators and Representatives—who should be *your* watchmen, and not *you* theirs—that they investigate and keep you fully posted on all matters affecting your interests, instead of waiting for you to respect-

fully inquire of them about this or that matter, as they now appear to believe is the proper procedure.

MR. KEARNEY. Mr. Chairman, I move that the Chair appoint a committee of fifteen, whose duty it will be to devise a plan or plans, and to put those plans into effect, to promote co-operation among the prune-growers, the raisin-growers, and the growers of all other classes of cured fruits throughout the Pacific Coast, this committee to report to the next Horticultural Convention.

PRESIDENT COOPER. The resolution will be passed over to the Committee on Resolutions, of which Mr. Markley is chairman, to report later.

MR. MCINTOSH. Mr. Chairman, in view of the immense importance of the address of T. C. White, the treasurer of the California Raisin-Growers' Association, to this Convention this forenoon, which, by the way, was cut short by the visit of our beloved Governor, I desire at this time to ask for an order that upon convening at 2 o'clock this afternoon a discussion of that paper or that address by Mr. White take precedence over everything else. I ask, Mr. President, for an order to that effect.

PRESIDENT COOPER. There being no opposition, it will be in order to take that discussion up at 2 o'clock this afternoon.

Here a recess was taken until 2 o'clock this afternoon.

AFTERNOON SESSION—SECOND DAY.

WEDNESDAY, December 9, 1903.

The Convention was called to order at 2 o'clock. President Cooper in the chair.

PRESIDENT COOPER. If the Committee on Resolutions desires to report on any resolutions referred to it, it will be in order to hear them.

REPORT OF COMMITTEE ON RESOLUTIONS.

MR. MARKLEY. Mr. Chairman, the committee has passed on some resolutions. It reports favorably on the resolution on the parcels post, submitted by Mr. Berwick.

Resolution adopted unanimously as read.

MR. MARKLEY. The committee also reports the following resolution:

Resolved, That the Chairman of this Convention appoint a committee of fifteen, with Mr. A. R. Sprague as chairman, whose duty it will be to devise a plan or plans, and to

put these plans into effect, to promote co-operation among the prune-growers, the raisin-growers, and the growers of all classes of cured fruit and nuts, throughout the Pacific Coast, and that five members of said committee constitute a quorum thereof; this committee to report in writing to the next State Fruit-Growers' Convention.

Adopted.

MR. MARKLEY. Mr. Judd has submitted a resolution. Mr. Judd says he was one of the unfortunate inspectors under the label law, and found some trouble in enforcing it, and that he finds it necessary to amend the law. On his statement, the committee indorses the following resolution:

WHEREAS, The Act of March 20, 1903, relative to the marking or branding of fruit packages, does not give the grower the protection desired; therefore, be it

Resolved, That said Act be so amended as to read after the word "grown," in line 9, Section 1, of said Act: "Also the name of the grower and his postoffice address"; and be it further amended, making it a misdemeanor for any person or persons, firm or corporation, to erase, or substitute, or in any way mutilate or deface any mark or brand on fruit packages, previously placed thereon for the purpose of information, by whom and where said fruit was raised.

Resolution referred to Committee on Legislation.

MR. McINTOSH. Mr. Chairman, while on the report of the Committee on Resolutions, I move you, sir, that a committee of three be appointed by the Chair to inspect the exhibits made in this hall by various persons who have gone to some expense in making a display, and to report subsequently upon this exhibit.

Carried.

DISCUSSION ON THE RAISIN INDUSTRY.

MR. McINTOSH. Mr. Chairman and Members of the Convention—ladies and gentlemen: Referring to the matters before the Convention this morning, it is not necessary for me to tell you who live in the San Joaquin Valley, that this, of all other questions pertaining to soil production, is the most important one. It is not necessary to tell you that the city of Fresno has established a name for itself, not only in California, not only throughout the United States, but also in Europe and in the civilized world, that name being, "The Raisin Center." This name, fellow citizens, has come down through many trials, through many ordeals, through many strifes, through many contentions, with much toil, much labor, and much talk, and to-day, thanks to that spirit which unites individuals under difficulties, which unites the soil-tiller under labor and under loss, we are now in possession of that organization which has given to these people, of the past and of the present, that which under individual effort none were able to accomplish. I refer, of course, to the California Raisin-Growers' Association, now in its fifth year. Its record and its history have been written in

language that can never be erased and never effaced from the memory of this people who have been behind it in times past; and now, after these years of toil, after these years of discouragement, after the years of infancy in this industry, we have, as I said before, arrived at that proud position where, through the instrumentality of co-operation, we have results which are most gratifying and which have contributed more than all other results, from the standpoint of the soil producer, to build up this "Raisin Center" of California. But, in the address to which we listened with so much interest and pleasure this forenoon, we were told that a new and a more distressing, if possible, condition confronts the raisin-grower of California than during the period of its infancy, during the period of the trials and troubles to which I have referred, the unfortunate period of the 1½-cent per pound for raisins, and this declaration comes, gentlemen, from a man who has been connected with this Association, intermittently, it may be, almost from its infancy, from a gentleman to whom, to my certain knowledge, this community owes more than to any one single individual for the organization and original and early success of that Association, a man of ability, a man of talent, a man of courage, but, to my mind, fellow citizens, he has sounded an unusual and a plaintive note to our ears this forenoon. What was that note? It was the note we have heard for years in the past, not from the side of the grower, friends, but from the side of the packer, from the side of the commission man, from the side of the shipper, namely, overproduction. (Applause.) I say, friends, that not until the present moment have we heard from the standpoint of the grower this doleful, this unpleasant, this stand-still—if not to say retrograding—assertion, and I am here, friends, to disprove the proposition; I take no stock in the allegation. I do not believe that there is a single iota of truth, based in logic, for such an assertion. I believe that, through an enlightened understanding, through better methods of marketing our raisins, through better means of distribution, through a better organization, if possible including the entire area of raisin production, we shall be enabled not only to take care of the crop, enormous as it has been during the past two years, but also to double it, triple it—aye, quadruple it, and yet find a market for it all. (Continued applause.) I make this assertion for the reason, first of all, that consumption is in exact ratio to the price of the product. That, fellow citizens, is the underlying principle in all transactions, in all traffic, and if we lose sight of that one principle we are sure to get into deep water, into the strands and shallows of disappointment and distress such as seem to confront the raisin-growers of California to-day. But I say that this is not the only trouble for our consideration. This is the main one. Now, I mean to take up the views of three individuals of this Convention and if possible point out the bearing of their discussion on the

resolution of this all-important question, and I shall first take my logical and level-headed friend, Mr. Sprague. He told us, last night, in discussing this question of co-operation, that there was one underlying feature that would never and should never be overlooked, namely, an elastic manner of handling our productions. That means, fellow citizens, that an arbitrary rule or an arbitrary price fixed upon any production is calculated to get the producers of that production into deep water. Now, the argument was simply this, from Mr. Sprague's standpoint, that we must have a better plan, a better form of taking care of our product, through distributing agencies, through local agencies in all the markets, not only of the United States, but of the civilized world, and through these agencies keep our fingers upon the pulse of the people; we must gradually make for ourselves agencies in the different cities and through them establish an elastic price, an elastic market, by which we can accommodate prices to the conditions that exist, in the interests of traffic, of trade. I submit that that is one of the chief principles in everything, and it must be arrived at. No arbitrary rate can ever be maintained against a people who can, if they will, get along without the production of raisins. You know and I know that the best people, those enjoying the most of the luxuries which the soil can, under its most favorable conditions, produce, live a long, a happy life, without ever tasting a raisin, and for that reason, as well as for the general principle of elasticity in dealing in all commodities of commerce, we must recognize this principle and place the Raisin-Growers' Association in a position to deal with it, and to deal with it intelligently and constantly.

So much for Mr. Sprague. Now, as for Mr. Kearney, the gentleman who spoke this morning anent a proposition that had been presented by a young man—you gentlemen here remember it well—who related the circumstance of his stepping into one of our local stores in the "Raisin City," in the center of that wonderful production which has given us so much wealth and so much fame, and he found, to his amazement, that in the local store, in the center of this enormous production, with millions of pounds of raisins on the hands of the Association unsold, and apparently unsalable at the price established, he found to his amazement that a small carton of raisins, weighing a pound, I think it is, Mr. White, is it not?

MR. WHITE. Two pounds.

MR. MCINTOSH. Weighing a couple of pounds, the price was 35 cents, or $17\frac{1}{2}$ cents a pound for raisins in the raisin center of California. Is that, friends, the kind of business through which we may expect to reach the consumer and place our products upon the market? The answer is evident. I submit that all of you know that the suggestion should be carried to the limit that Mr. Kearney made; that is, that

every carton should have the price conspicuously printed upon it, and that the trade should be given to understand that they must handle the raisins for that price or not at all. (Applause.) Through that agency alone an enormous consumption in California would be assured, and right in the city of Fresno the consumption might be increased, I would say, ten, twenty, or one hundred fold. We all know what it means. I am satisfied that in the city of London—and not a raisin can be raised nearer that city than hundreds of miles—raisins can be bought in the open market to-day for less money than they can be purchased for at retail in the city of Fresno. Do I need to tell an intelligent audience in California that those conditions should be corrected? Need I tell you that the proper exercise of our intelligence and of the privileges which we enjoy as a free and enlightened people will correct this most remarkable, this most amazing situation?

Next, I want to come to my old friend Berwick. If ever there was a man eminently fitted, in my judgment, to carry forward the project, in behalf of the common people, of getting the products of the soil to the consumer in remote parts of the country, to the individual who needs the goods, to those families of the East, of the North, and of the South who would be glad to take this product with which we are overloaded and use it not only—as Dr. Rowell told us this afternoon—as a luxury, but as a delightful food, a most wholesome food—he is the man. Through the agency of the parcels post, friends, I look for great things—if we ever get it. I believe that if we had a parcels post, on the same basis that Great Britain has and enjoys, that Germany enjoys, that France enjoys, and that many countries of the earth enjoy, there would be no trouble, Mr. White, about the quantity of raisins in California. (Applause.)

The problem now which, to my mind, confronts us is this—let all thought, in the San Joaquin Valley at least, be directed to this one proposition: to cheapening the means of transportation from the producer to the consumer, upon the avenues of trade—by cheaper communication, by the parcels post, if you please, and by other means of communication; and then let us recognize, also, that we must have some elasticity to our markets and our prices, so that we may be ready, without sacrificing ourselves, to at all times accommodate the prices of our goods to the conditions of the consumer. When these things have been accomplished, we shall hear no more of the doleful cry of overproduction; but, on the contrary, we will find the American citizen, at least, standing side by side in the consumption of raisins with his distant brother of the British Isles, who, though producing no raisins at all, consumes four times the quantity which we consume. When these things are accomplished, we will have placed the grower of raisins, we will have placed the soil-tiller and the soil-owner of central Cali-

fornia, in a position in which he will declare: "The more raisin grapes and the more raisins I have, the better off I am." I thank you for your attention. (Applause.)

PRESIDENT COOPER. I will now be glad to hear from any one else on this subject.

MR. WHITE. Mr. Chairman, I consumed considerable of the time of this Convention this morning in going over this matter, and I hesitate to consume much more of it, because I have not changed my mind from what it was in the forenoon on account of what Mr. McIntosh has said. I am still of the opinion that the production of raisins in California is in excess of the demand. He speaks of the parcels post. I admit that that would perhaps be a good thing, but we haven't got it yet. There are many things which perhaps can be done to do away with the over-production and to extend our markets, but those are things which must be studied out, they must be worked out carefully and by business men, by men of commercial intelligence. At the time Mr. Kearney adopted the "sticker," as he calls it, on the side of the package: "10 cents and no more for this package of raisins," the market didn't take to it, and no more raisins were sold under those conditions than were sold before. That was the information we got at headquarters from all along the line. Now, that may be a good thing when the trade becomes accustomed to it, but when you tell the retailer that he can not sell a certain article above a certain price, he doesn't like it. You have got to educate him up to it. Now, when I say that it is better to sell one hundred million pounds of raisins at four cents a pound than to sell two hundred million pounds at two cents a pound, it is because there is more money in it, more profit in it to the grower. I believe in co-operation. I believe it is a safeguard to the grower. I believe the growers should come together and organize these little co-operative companies and attempt in all ways, by post and by increased facilities for transportation, to get our raisins closely before the consuming classes of people. I admit that one argument which Mr. McIntosh has made is good, and that is that there is too much difference between the price which the grower gets and the price which the consumer has to pay. But, what are you going to do about it? Now, he spoke about paying 17½ cents a pound in Fresno. Why, does not Mr. McIntosh know that every pound of our best grade of raisins that the Raisin-Growers' Association sells we sell at 15 cents a pound, by carload lots? Perhaps he does not know that.

MR. MCINTOSH. It is a small proportion of them.

MR. WHITE. It makes no difference. We can sell all we produce, and you can't go to a packing-house in this city to-day and buy a pound of raisins of such grade at less than that price.

MR. SPRAGUE. Who is it gets that price, the 15 cents a pound?

MR. WHITE. The producer gets it all except a $6\frac{1}{2}$ per cent commission.

MR. SPRAGUE. And who is it rules the prices?

MR. WHITE. The Association rules the price. The packer sells at the price that is established by the Association, and the price of our best grade of raisins is \$3 a box for twenty pounds, and if that is not 15 cents a pound, then my arithmetic is "off." The next grade of raisins below that is \$2.50 a box, which is $12\frac{1}{2}$ cents a pound.

MR. McINTOSH. What is the average price?

MR. WHITE. The average price the grower has received for his product since the Raisin-Growers' Association was organized, with the exception of the first year and with the exception of the third year—which was an off year—has been 4 cents per pound. The first of last April, when the growers met in this hall, at the annual meeting of raisin-growers, they passed resolutions of thanks to the board of directors, and were more than satisfied with the prices they had received as a result of last year's business, and we had the largest crop the State has ever produced until this year. But there were at least five hundred to a thousand cars of last year's crop carried over into this year. Now then, we have produced five or six hundred cars more this year than last year. We have 110,000,000 pounds this year. It is possible that all of those raisins may be marketed. I am in favor of some sort of scheme that will get our raisins closer to the consumer and cut out very many of the expenses that are incurred in handling the raisins by the middleman. But how are you going to do it? It might be a good scheme to educate the dealers in these goods, and whenever we can educate the dealer or the retailer to set a certain price which would be a fair and reasonable price at retail for our products, and put a sticker on the side of the box and say that "These raisins are 10 cents per pound and no more," then, if he sells our raisins and the market is cleaned out every year, it is time enough for us to say, "Go on and plant some more vineyards; we can dispose of another hundred million pounds." Now, so far as I am concerned personally, I have a very small interest in the vineyards of this county. I have a little interest in some other property. I have land that is adapted to raisin-grape vines that I am willing to sell, but the only interest which I have in any vineyard is my interest in a bank which owns a few vineyards, or owns an interest in the vineyards. I don't own a vineyard myself. I own land, plenty of it, in half a dozen different places in this county and in other counties, that is adapted to the culture of raisin grapes, so that I hope Mr. McIntosh does not impugn my motives when I say that I am afraid, if we keep up the same pace of production which we have in the last twenty years, that we will have more raisins than we can sell at any price.

MR. JACOBS. Mr. Chairman, it seems to me that this discussion on the raisin situation is very much in line with the discussion that has been held in previous years in previous Fruit-Growers' Conventions, with the exception that for a number of years the Raisin-Growers' Association occupied a unique position. They were progressing favorably and were prosperous. The fruit men, who had a co-operative organization, did not stand together, and it resulted in disaster to the growers, from which they have suffered for a long time. Now, I, personally—although not handling raisins—am one of those who handled raisins when the industry was in its infancy, at the time Mr. White has mentioned. In fact, I believe we handled part of Mr. White's raisins at one time.

MR. WHITE. That is right.

MR. JACOBS. I am not an alarmist, as I don't believe that any of California's products are over-produced. I contend that the result is not caused by overproduction, but that it is the result of the methods of handling the business. In the past few months I made a trip through the East and studied conditions existing not only in my own line of business, but also in the raisin business and in that of other California products. Mr. White has stated here that in 1893 there were 103,000,000 pounds of raisins produced, and subsequent to that time the industry met with disaster, until the Raisin-Growers' Association was formed. That association was a necessity to the growers. It was absolutely necessary for their self-preservation to form a co-operative organization, and after it was formed, with the exception of one or two years, they were very successful. In 1898 there were only 80,000,000 pounds produced, but in 1903, this year, I believe Mr. White said 110,000,000 pounds?

MR. WHITE. This year, 110,000,000 pounds.

MR. JACOBS. There is nothing allowed for the increase of population in this country in ten years, and yet there is only an increase, up to the present time, of 7,000,000 pounds of raisins since 1893, when the country was in the throes of a financial panic, and you all know what the word "panic" means. Now, the raisin men of Fresno, just because they have not sold in three months more than fifty per cent of their product, are willing to spread the report abroad that there is already an overproduction; but if they will stop to consider a moment, they will realize that perhaps they are wrong. From conversations with many leading houses in the East, I have come to the conclusion that perhaps there was a mistake made in the methods of marketing the product, and if they have made a mistake in the methods, it behooves the growers of this county to let those same directors work out their own salvation, and they will do it, because they have still nine months to go on. But the conditions existing now are these—and they exist in

the canned-fruit line in which I am interested—the great buyers of this country have been affected by the thought which is going the rounds through the country that we are going to be faced by a financial panic, and buyers have pursued an extremely conservative course in making their purchases. In my own line, people who ordinarily buy from 25,000 to 30,000 cases of goods have satisfied themselves by buying from 500 to 1,000 cases, and some of them 2,000 cases, and then they supply their needs as they require the goods. Now, that means that when they need the goods they will have to buy them, and there is only one thing that can deal with that condition of affairs, when it relates to California raisins or California prunes, and that is the kind of an organization that Mr. Sprague is at the head of. Now, in the East, the buyers of raisins have been met by this condition of affairs, from what I was told, that at the beginning of the season a price was fixed by the California Raisin-Growers' Association; the Association found that all the raisins were not in their hands, and after fixing this price they decided, after some buying had been effected, to drop the price to make the people who had raisins outside of the Association lose money. That was practically the object—to force them into the Association in time. Now, this may be all very well from the standpoint of manipulation, but the question is whether this was judicious. In the first place, it discouraged the big buyers in the East right away, because the basis of the prosperity of the business of handling California products, particularly cured fruits, is a solid organization. Then the buyer, in making purchases, knows that he will be protected in his purchases; but if in the start, after making his purchases, the price drops and he loses money thereon, it discourages him, not only discourages but it disgusts him, and he says: Now I am just going to leave that market alone; and instead of buying ten, fifteen, or twenty-five carloads of raisins he will buy one car, and when he sells that he will buy another, because he doesn't know how conditions are going to rule. So that it is a mistake, in my judgment, to talk about overproduction in raisins. When the proper methods are adopted, the real commercial methods, with the right men to handle the business, you will find that the products will go into consumption and that they will be successfully handled, and they can only be handled through the means of a solid, co-operative organization.

MR. WHITE. Mr. Chairman, I desire to correct a statement made by Mr. Jacobs through error—I am satisfied that it is an error, and I would not like to have it go before this Convention in that way—that at first we had set a high price upon our product and afterwards reduced the price, and thus discouraged the trade. Our information early in the season was that the crop was going to be a short one, shorter than that of the year before, but we realized that the wine men

were going to buy less grapes for the wineries, and we said to the growers that if they would all join the Association and we had a percentage large enough to justify it we would fix the price as high as it had ever been fixed in the history of the Association, and that was exactly the price which the Association fixed. Having the fixing of the price of seeded raisins as well as of loose, we fixed a lower price upon seeded by a cent a pound. We found then that the crop was going to be a large one, and we were satisfied, from the importations of the foreign article, that the market would not justify any such price, and we immediately, and before hardly any raisins were sold at all—before we had any raisins to sell—reduced the price upon the loose to where it is now, and raised it a notch on the seeded. Now, on the goods that had been sold at that time, at the first prices, we rebated the difference in the prices, to every man or house that had purchased a pound of raisins from us; so Mr. Jacobs is entirely mistaken when he says that the trade is dissatisfied because we reduced the price and they had to sustain a loss. We rebated the difference between the first and the second price to every purchaser who had bought a pound of raisins from us, we rebated to him that difference. Now, I just wanted this Convention to understand that.

MR. SPRAGUE. Mr. Chairman, just a few words on some of the points that have been brought out. In the first place, I want to say that I was connected with the second year's operations of the Raisin-Growers' Association. The experience of that year was that, under the system of marketing then in vogue, it was possible for the commercial packers, through their brokers, to make a cut in the brokerage, which was virtually a cut in price, and that was done secretly and fraudulently, for they had promised to do no such thing. The co-operative packers of course could not be partners in the fraud, and we were left with a very considerable portion of the raisins of our constituents upon our hands and subject to serious loss in our profits as co-operative packers. Now, that is a bad feature which is necessarily connected with that form of organization. I want to say this, also, that through all of our connections at the East at this time comes the same testimony, that the Eastern jobbers have lost confidence in the Raisin Association. Now, confidence is the most precious thing in business. Let me say, further, that the very failure to sustain the confidence of the trade during the first year of the operations of the Raisin-Growers' Association led, in my judgment, to the breaking down of prune prices. Now, I speak advisedly concerning that, for you all know that there was a cutting-under, the loss of half a cent a pound in some cases to buyers who had already purchased at regular trade prices, by these subsequent cuts, and the trade then lost confidence. I remember Mr. Kearney testified at our last convention at San Fran-

cisco that when there were some twenty or thirty per cent of the growers outside of the Raisin Association, still these men, with no contracts, and while they were offered more money for their raisins than the Raisin Association would guarantee them, were bringing their raisins forward and depositing them subject to the authority and disposition of the Raisin-Growers' Association. Let us look at the encouraging features of the situation. Look at the progress the Prune Association made in getting together an organization. To be sure, it was an organization more difficult to perfect. No set of men could have made it wholly succeed. There was an honorable set of men in control, but the Association itself was faulty in its plan. The same thing is true of the Raisin Association. The fault is not to be found in the men, gentlemen; and you will find that when you just relinquish this as an era passed and stop discussing it, looking toward the future and standing for the support of this wider influence, this wider movement, with the enthusiasm and power and ability that have been behind these other movements, you will have a success for which we shall never have to apologize. (Applause.)

MR. HARTRANFT. I think that if any one looks the future straight in the face, he will ordinarily become a pessimist, and I think that is the reason why, in times and under circumstances like Mr. White speaks of with regard to raisins this year, we find even well-balanced men occasionally giving up hope. I know that is the case as regards oranges. When there were only 50 carloads produced in the State I heard the discussion among railroad men that there was great concern at Riverside that they might have three or four carloads and not know where they were going to put them. When they had 1,000 carloads they were very much worried. When they got 3,000 carloads, when they got up to 5,000 carloads, and to 7,000 carloads the market broke in terrible shape, but recovered on a shipment of about 11,000 carloads. It broke again on a shipment of about 17,000 carloads, because the machinery for distribution was not organized in advance of the increased production, but they went out again on a 24,000 to 26,000 carload crop, and we wound up rather uncomfortably last spring and summer with a crop of about 22,000 or 23,000 cars.

Now, my friend Stephens from Sacramento has argued for two or three years that they have planted too much to deciduous fruits. I have not been in the Sacramento territory this summer as usual, but it is my impression that up there the producers are in very good shape financially, that they have come out from past losses and discharged many of their old obligations; that they have had a very good season. And in looking over the report of Mr. Anderson I see that his prediction is that they can handle successfully a crop nearly twice the size of that which they are now handling. Now, Mr. Stephens has argued, and I under-

stand he makes the same argument again here, that we can not afford to encourage home-seekers to come in and help to build up the State. I think it is mainly because he merely keeps his eyes on the future, across which is nothing but a black curtain, because he fails to look around and observe and study the progress in the past. I do not believe that Mr. White agrees entirely—at least I hope he does not—with the position that has been taken frequently by Mr. Stephens in this Convention, that we should discourage entirely any further upbuilding of the State through the means of home-seekers. My own opinion of the raisin business is, that we can not flinch from the duty before us until all the school children of the whole land and of many foreign countries have stopped eating poisonous candies on their way to school and have discontinued buying these little nicknacks that are filthy and poisonous to them, until the raisin industry has been organized and systemized to a point where every dealer in candies will have for sale little packages, in oiled paper, of seeded raisins at a penny a package, until raisins and other healthful fruit products of California have been so produced and so marketed that they have, by their cheapness and their deliciousness and their value, driven from all the channels of our trade such unhealthful commodities as are now consumed.

MR. STEPHENS. I occupied a good deal of your time yesterday and I have no desire or disposition to occupy more, and certainly would not if it had not been for my worthy friend, Mr. Hartranft. I don't know that I owe any thanks to him for referring to me, as it necessitates my getting up and saying something. Now, I will preface my remarks by saying that I had the pleasure, a few hours ago, of taking a ride through the suburbs of Fresno and of observing the great prosperity which exists in this city and its vicinity. It is an exception to any other territory of equal size in the State of California. You gentlemen, you residents and property owners of Fresno city and vicinity, are favored more than those of any other locality in the State, and I attribute it to your organization, which brought forth prosperity from the ruin that existed before. I say to you, stand together upon the principles which you have already adopted, and if you can add to them anything that will be beneficial, add to them; but do not abandon that which has brought you prosperity. I say again, there is no city or town in the State that evidences the prosperity which your city of Fresno does. And why? Because you have brought millions of dollars into Fresno county and vicinity which has been distributed among the producers instead of having been gathered together in the coffers of those who have handled the products of others. That is the reason why, gentlemen, you are prosperous here: because the money that your raisins have brought has returned to Fresno and vicinity and has been distributed among the producers. Don't abandon your organization. If it is

defective, remedy the defects. It is suggested, if this is done, if that is done, or if something else is done, that when those things are done there will be a broader market. See that those things are done, Mr. Chairman and growers, before you plant and produce more than you can sell at a profit. (Applause.)

My friend Mr. Hartranft speaks of the great prosperity existing among the deciduous fruit-growers of the Sacramento Valley. No such prosperity, Mr. Hartranft, exists there as does here. Will Mr. Hartranft explain to us, as I did to you yesterday, why orchard property there has been mortgaged for fifteen or twenty years and is still mortgaged, some of the best in the State of California? Why is it that such a condition should exist, if the growers of deciduous fruits have been prosperous? Now, find the way, Mr. Hartranft, find the way through which prosperity will come to an increased acreage, either in raisins or in deciduous fruits, and then you have a right to suggest that the acreage be increased. I am willing to join hands with my friend Mr. Hartranft or with anybody else who will contribute his time and energy and money to develop the resources of this, God's greatest country upon earth. Nothing equals it, and all I object to is that it should be controlled almost wholly by half a dozen men.

MR. JOHNSTON. Mr. President, I also am from Sacramento, and I can not sit here and hear what my friend Stephens says without speaking in reply. We are not on the verge of ruin in the Sacramento Valley. Mr. Stephens says, why are the people from Fresno so much better off than we are in the Sacramento Valley? When we get ninety per cent of our growers in the Sacramento Valley to co-operate we will be in as good a position as you are down here.

MR. SPRAGUE. Mr. Chairman, I want to say one thing. I have been inviting the people of the East to come to California, and I am going to keep it up. I have not been inviting them here to plant raisin grapes or to plant Tokay grapes, but I have said to them: Gentlemen, it is the finest country under the sun to live in; it is the finest country under the sun to make a living in. I don't know of any place under the sun where a man can be so independent if he has got from twenty to forty acres of land, and water to put on it, and knows what to do with it. I said: Make a mixed farm, go into the production of several things, have cows, and chickens, and turkeys, and grow some fruit; don't put all your eggs into one basket, and you will make a living in California and you will be glad that you came. (Applause.)

MR. JOHNSTON. As I said, Mr. President, I am one of those men from the Sacramento Valley, and I want to tell a little joke on my friend Stephens. I was up on the American River last winter passing along by a very pretty place, an elegant farm. I saw some men digging some holes in a field, and I drove up and said: "What are you

digging those holes for?" "To plant grapevines." "Whose land is this?" "Russ Stephens's." "I thought Stephens was discouraging planting vineyards and fruit trees?" "Oh, that is convention talk!" (Laughter and applause.)

Now, I don't advise my neighbors to plant trees or vines, but I will plant them whenever I get time. I am very well satisfied with my work in planting trees. I have not had much to do with railroads, because I usually sell my fruit at home and make a living by it. I have enough now to live on, and I have been at it for a good many years, but I am still trying to get a little more land and I am planting a few more vines and a few more trees, just the same as Mr. Stephens is. I am perhaps assisting in the alleged overproduction, but I have not yet found the overproduction. I have always found sale for every pound of good fruit I could raise.

MR. STEPHENS. Mr. President, I want to reply to the gentleman, because what he has said places me in a rather awkward position, if not met with an explanation. You will remember that three years ago we made an effort, on the lines of the report and recommendation of the transportation committee, which was adopted by the Convention, that we appeal to the Southern Pacific Company not to enter into any new contract with any refrigerator car line. Up to the last minute everything indicated that the Southern Pacific Company was going to put its own car line on and eliminate the private car line. I had an opportunity to buy a piece of land for about thirty per cent of what was asked for it a few years before. That shows great prosperity there. It is good land, as good land as there is in that locality. If the car line was going to be eliminated from the service I felt safe in making that investment, and I purchased the land and planted the grapevines, before it was announced by the Southern Pacific Company that it had entered into a contract with the Armour Company. I tell you, fellow delegates, that had I known that that contract was to be renewed I would not have invested one dollar in the purchase of that land and I would not have planted out one grapevine, although it is in the very center of the best table-grape-growing land in the world. Why? Because I would have regarded it as without value, as subject, in a great degree, to the control of the car line. I only say this in explanation of the reason why I bought the land and set it out to vines. Now, that land had upon it $7\frac{1}{2}$ acres of deciduous fruit trees, of the best varieties. I tried one year to make something out of those trees, and I lost money on every box of fruit. I dug them out, they are out yet and the land is idle. It cost me about \$150 to dig out those trees. I made money by it and the land stands there, and if Mr. Hartranft or any one else wants to plant it he can do it. I didn't even plant it in grapevines. I was afraid of the result.

MR. HUTCHINSON. I have told people to come here, what they could do and what they were doing here. Take it with the farmers in the East, those in the same business we are; they have got to run from one place to another for weeks to get rid of their small crops, while we never have any trouble in selling our crops, and I think nobody in the State has any trouble of that kind. I think those who have kept account of all their shipments know that they have made money, they have found that they have come out ahead. That has been the experience of every man who has kept account of his sales.

MR. STEPHENS. Mr. Chairman, I regret very much to occupy so much time. I say, with this gentleman, that in former years when there were no manipulations by car lines the fruit-growers made money, and I did, I made plenty of money, but I give you my word that in the last two years my expenses have been greater than my income. In regard to selling, you are right, you have no trouble in selling, because a man comes to you and says: I will give you 30 cents a box for your plums, and you have got to take that 30 cents a box or nothing at all. Now, the 30 cents may cover your expenses for the year and you will get your money back. You have one buyer of deciduous fruits in California, and that is the Earl Fruit Company. Some men, like Mr. Anderson, may be permitted to buy some fruit, but the Earl Fruit Company bought the most of it, except what the Porter Brothers bought, and that fruit which they bought was shipped and sold in their name at a big profit, but the grower didn't get the profit, because he had sold his pears at 50 cents a box and his plums for 30 cents. Now, as I explained yesterday, the reasons why he sold were because the preceding year was a disastrous one, because he lost money, because Porter Brothers had this field, and the Earl Fruit Company's agents went around and said that you should not ship with a bankrupt concern and lose money. The year before he did not feel like venturing and was ready to take almost any price, and a large percentage of the fruit grown on the Sacramento River, where Mr. Johnston comes from, was sold and shipped in the name of the grower, but belonged to the buyer.

MR. HUTCHINSON. I want to state right here, gentlemen, that I have shipped a little fruit from this county, under great disadvantages, being three days short of the time from where Mr. Stephens ships his fruit, and I have kept an exact account of every sale and what I could have sold for here, and for ten years I have always come out ahead by shipping East.

MR. SPRAGUE. Right here I wish to make a statement, and that is, that last year several of our growers on the Sacramento River who shipped to the California Fruit Exchange received net fully as much and some of them a little more than the cash price paid by the Earl Fruit Company and the other company. That was in a disastrous year.

In the year before that they received a good deal more than the cash price offered them. This year they again received a great deal more than the cash price fixed, so that I wish to corroborate Mr. Hutchinson's statement, that the shipper who will stand right up on the proposition, even in these difficult times, will get more money for his product by shipping it than by selling it to the cash buyer.

MR. STEPHENS. I agree with you there.

MR. BERWICK. Mr. President, I made some remarks at Los Angeles, at the last session we held there, to the effect that I had been growing fruit for thirty odd years and had not made any money, and because I published those statements I was called a "knocker." I never have cared, and hope I never will care, what I am called in life, so long as I do what Berwick thinks is right. I thought it right to make those statements. Now, we hear a great deal about this fruit business, as though the growers were all making money. For my part, after years of hard work, I have not much to show for it.

MR. JACOBS. I come in contact with a great many fruit-growers of the Sacramento Valley, from Alameda County, and from a section of the State generally around the bay, and I am satisfied that in that valley—take any line of business in the State of California, and you will find that the fruit-growers of the Sacramento Valley are just as prosperous and successful as men engaged in any other business in the State, and if you take the average class of fruit-growers along the Sacramento River and in the Sacramento Valley they constitute just as prosperous a class as any other class in this State or in this country. It is a disgrace, as Mr. Stephens said yesterday, that one great shipping firm has gone into bankruptcy through their past speculations with the money which they have stolen, to use plain language, probably from the growers, for when they got those private rebates it came out of the profits of the growers. That is plain language, but it does not alter the fact that the fruit-grower, under present conditions, is as prosperous as those in any other line of business. Now, Mr. Chairman, I have a resolution to introduce. It is:

Resolved, That this Convention indorse the work being done by the California Promotion Committee.

I submit this resolution.

PRESIDENT COOPER. The resolution will be passed over to the Committee on Resolutions.

MR. HARTRANFT. Mr. Stephens has said that we can go ahead with planting and can go ahead in the regular expansion of our deciduous fruit industry when we shall have proper transportation facilities and the necessary marketing arrangements to justify it. In the first place, I don't believe that there was ever a useful instrument invented

for the use of mankind, I don't believe that there was ever any great work accomplished, except it was done under the stress of necessity. I don't believe that it is possible, in the administration of human affairs, to sit back and wait until you have an open road in any industry. It is a fact, and I am not ashamed to say it—in fact, it is to me a source of intense pride—that the deciduous fruit crop of northern and central California this year was marketed in a manner and with a record that is unparalleled in the history of the perishable fruit trade of the world, and I hope it will be next year so that the record accomplished is such that it will constitute a very happy story for that whole section.

MR. STEPHENS. Inasmuch as I have been accused of something which is disgraceful, I feel that a moment or two of your time might be properly occupied by me. I don't retract one iota of what I have stated. It is a fact, notwithstanding the utterances of my friend, Mr. Jacobs. Mr. Jacobs may come in contact with those growers he speaks of, for what I know, and may be he belongs to the millionaire class, I don't know. Now, take my neighbor and friend, for instance, Mr. Johnston. There is no question about his prosperity. There is no question about the prosperity of many growers on the Sacramento River, because they have been in the business a long time, but I make the statement that Mr. Johnston has other interests besides fruit-growing. I believe he is in the dairy business, at least he was, and he does not depend wholly upon fruit-growing for a living. I do not deny that Mr. Johnston and several other growers on the Sacramento River, and a few in other places, have made money by handling their fruit. But I wish to call the attention of Mr. Jacobs to the digging up of 58,000 fruit trees in one section of the country, in one holding, last year, because they didn't pay, and that is upon the Sacramento River, too. I wish to call his attention to the digging up of many thousands of trees in Butte County, it is alleged because they didn't pay.

MR. STILES. Mr. President, I am very sorry Mr. Stephens has not the facts and statistics to present in this argument. As a resident of Butte County, I would like to have him state the facts as to why those trees were dug up in Butte County. It was for no such reason as he tried to impress on this Convention.

MR. STEPHENS. Then what is it?

MR. STILES. Well, you tell.

MR. STEPHENS. I will tell you. As given out to the people of the State of California by the press, it was because they didn't pay, because the orchards, some of them, had been neglected, because the trees were old and unproductive. That is the very point I make here. I have been trying to call your attention, and the attention of Mr. Jacobs, and the attention of all advocates of increased population, to the fact that one of the most important factors, and expensive factors

in fruit-growing in the State of California, is replanting and renewals. You have got to dig up your trees at some time, and replant. Any man who knows anything about horticultural growth or vegetable life knows that you can not grow the second tree as rapidly and as well as you can the first, because you have taken from the soil the properties which go to make up its strength and fertility. You have to resort to fertilization—another expense. In addition, you have to wait from six to fourteen years from the time you dig up your first tree before you can pluck one profitable piece of fruit from your new tree. Frequently your second tree dies also, for the reason that the ground has been impoverished, or something, and you have to plant again. I am going through that experience now, gentlemen. I dug up trees seven years ago and put new ones out. Last year I dug out the new ones and they never had returned one cent to me. I planted others, and I don't know whether they will grow or not.

MR. MARSHALL. I just want to speak in regard to Fresno County, the county in which I live. I think that, as Mr. Stephens has made a failure up north, he should come down to Fresno County among people who are making money. Five years ago the mortgage indebtedness of the farms throughout this county was over \$42,000,000. To-day it is less than \$5,000,000. Now, we have got a fruit county that is all right.

MR. STEPHENS. Mr. Marshall, I said you had the best county in the State; that you were the most prosperous people in the State.

MR. STILES. Now, Mr. Stephens adds insult to injury as to various parts of the State, and I want to tell him why in my county the trees were dug up. The orchard was planted on alfalfa land, land that was not fitted for trees; they were the wrong variety, and in some cases they were planted on land worth more to take gold out of. We have taken \$25,000 in gold out of some of that land. Mr. Stephens does not state these things, but seeks to injure our State by the statements which he makes.

MR. MCINTOSH. Mr. Chairman, in view of the fact that I opened this discussion this afternoon, I may claim, I presume, a few moments to close it. We began the discussion as to raisins in the San Joaquin Valley. This began over the paper of Mr. White, in something of a disputatious nature, but it has been enlivened by our friends of our neighboring county of Sacramento. I now desire to return for a few minutes to the general question which was considered in the beginning of this discussion, viz: raisins, in the San Joaquin Valley. We learned from Mr. White this forenoon that $1\frac{1}{2}$ cents a pound for raisins was just about equal to the cost of production, and that the price fixed at the present time is 4 cents a pound, the average price, and it has placed the raisin industry in the position of holding a large proportion of the present crop unsold and with only a bare possibility of realizing in the

ordinary time the prices that have been arbitrarily fixed by the directors of the Raisin-Growers' Association. Now, the proposition which I wish to impress upon you is this, that between the extremes of $1\frac{1}{2}$ cents a pound which guarantees production, and the arbitrary rate of 4 cents, on the average, which has been fixed by the Association, there is a mean, a happy medium, between the two, and I stand for that happy medium, and in taking this position, friends, I do it in the face of all the vineyardists in Fresno and adjoining counties who have raisins to sell. Naturally enough, they want to realize the best prices obtainable for their product, and when I controvert the advisability of the extreme rate, I am talking in the face of one of the strongest passions—that of selfishness. It is a passion the opposite of sympathy. The sympathy side of our nature tells us we should not limit production in this valley, but should keep our prices in the reach of the consumer. It is guaranteeing a livelihood to the people who live in those climes, in those localities where life is something of a burden, where the inclemency of winter and the disadvantages of summer make a large part, at least, of the inhabitants of the United States in favor of a home in California. I believe in immigration. I stand for that proposition, and in standing for it I want to say to my friends and my relatives, and I have many of them in the East: Come to the blessed and bountiful State of California, come to that prince of all of the localities in California, namely, the Raisin Center of the State. While we want no Croesuses and expect no Croesuses in this valley, we offer those who come here the glad hand and guarantee to them a comfortable living on the basis of a fair income for their labors in behalf of soil production, and above all in behalf of raisins. (Applause.)

PRESIDENT COOPER. Mr. McIntosh has said that he would close the subject. He opened it, and he has announced that he will close it. Of course, it is not exactly proper for the chairman of a convention to enter into discussions, but I would like to ask Mr. McIntosh two or three questions. What is the value of the land on which you grow raisins here in Fresno?

MR. MCINTOSH. Mr. Chairman, there are very many conditions that enter into the value of land.

PRESIDENT COOPER. Well, good land?

MR. MCINTOSH. I presume the average, Mr. President, for raisin land, under fair conditions, here, that is, what we call wild land, unoccupied land, can be purchased all the way from \$75 to \$175 per acre.

PRESIDENT COOPER. We will put the value, then, at \$100 an acre. How many pounds of raisin grapes can you raise on an acre; how many are grown on an acre, on an average?

MR. MCINTOSH. Well, any raisin-grower here might give the average; I don't know that I could, Mr. Chairman. It varies very

greatly, according to the soil, according to the vines, according to the care, irrigation, and so forth, and a number of other things that go into it. Now, for full-bearing vines, that is, the Muscat and Malaga grapes, what would it be, Mr. Hutchinson? Probably you can help me there.

MR. HUTCHINSON. Well, the average for the county would be about one ton to the acre on all land where the vines are over three years old.

MR. McINTOSH. One ton to the acre, and the average price, as we have learned, is 4 cents per pound.

PRESIDENT COOPER. Then we have the proposition that they pay \$100 an acre for the land, and by the time the vines begin to produce, assuming a reasonable cost for planting and caring for those vines, you have an outlay of \$200 an acre. Mr. White stated that at 4 cents a pound the grower possibly had $2\frac{1}{2}$ cents a pound profit, and that, on two thousand pounds is \$50 an acre. In twenty-five years you have to dig up these vines and replant, or may be before then, even if the mysterious vine disease doesn't take them, so that in twenty-five years you have at least the cost of \$400 an acre for that land. Therefore, the profit of $2\frac{1}{2}$ cents a pound is too little, and whenever you talk about decreasing the value of raisins to such a point that a man can't live he had better leave his place and quit. Two and a half cents a pound is as little profit as ought to be expected by anybody who would buy raisin land and plant raisin grapes.

MR. F. W. CRANDALL, OF SAN JOSÉ. I move the adoption of the following resolution:

Resolved, That the thanks of this Convention be tendered to Mr. C. A. Jenkins, Manager of Fresno City Railroad, for the very pleasant ride over his lines, affording an opportunity of seeing Fresno under most favorable conditions.

Motion duly seconded and carried.

PRESIDENT COOPER. I am very sorry to make a statement. I received a telegram last night informing me of the death of my brother-in-law, and the widow has telegraphed me to come home, so I will not see you any more at this Convention.

MR. STEPHENS. I wish to move that the heartfelt sympathy of the members of this Convention be extended to our beloved President in this hour of bereavement, and also that the thanks of the members of the Convention of Fruit-Growers of the State of California be tendered to him for the very able and impartial manner in which he has presided over the deliberations of this Convention.

VICE-PRESIDENT McINTOSH. Gentlemen of the Convention, you have heard the motion of Mr. Stephens respecting our very worthy President, to whom it is desired, in this motion, to extend, in this hour of his bereavement, the condolence of the members of this Convention;

and, further than that, to express to him our hearty and cordial thanks for the impartial and worthy manner in which he has presided over the deliberations of this Convention up to this moment. I bespeak, I believe, the sympathy of every member present, ladies and gentlemen, to this liberal man in this hour of his heart's bereavement. All who favor this motion signify it by rising to your feet. Mr. President, it is so ordered.

Here an adjournment was taken until 7:30 o'clock P. M.

EVENING SESSION—SECOND DAY.

WEDNESDAY, December 9, 1903.

Convention met at 8 o'clock P. M. Vice-President McIntosh in the chair.

MR. MCINTOSH. Mr. M. V. Hartranft, of Los Angeles, is on the program for a paper this afternoon: "Fruit Markets and Marketing." I take pleasure in introducing to you, ladies and gentlemen, Mr. M. V. Hartranft, editor of the "Fruit World," of Los Angeles.

FRUIT MARKETS AND MARKETING.

BY M. V. HARTRANFT, OF LOS ANGELES.

The market price of any given product at any given time is that point in the commercial scale of dollars and cents where the man who wants will surrender the coin of the realm to the man who has produced; and the ascertainment of the exact price point at which the great bulk of any commodity can be successfully moved is worthy of the occult powers of a seer, a prophet. Upon this rock some of our strongest marketing organizations have gone to pieces. Who is the man who can run his finger up and down the gamut of prices and stop, with exact precision, on the price point at which an entire crop of any one line may be successfully moved into the stomachs of the people?

The directors of the Prune Association could not do this thing—in fact, they fixed prices just a quarter of a cent too high, and their great craft wrecked ere it was started upon the first voyage. The directors of the Raisin Association have not been able to do it with continuous success, although they have approached nearer to success than any similar undertaking that has come under my observation. The citrus fruit exchanges have not even attempted to fix a price basis, high or low, but have worked to capture the best results in the consuming

markets from day to day. Between the man who has produced and the man with an appetite is an army of middlemen, helping, by one method and another, to bring the two people together, and likewise an army of middle factors, of the speculative mood and method, whose principal operations tend to keep these two factors apart, for the purposes of profit, or extortion, if you wish; and so hopelessly interwoven is the present-day fabric of commerce that it oftentimes requires microscopic vision to distinguish the evil from the good. We have the men who do tell us what price we ought to hold our product for, but they offer us no guarantee that we will not lose by their advice, or that their friends will not sell out at ruling figures while we hold the bag.

In the solution of this problem of marketing come the questions of organization and method of operation. In organization records we have some bright successes and some ugly wrecks. Our Walnut-Growers' Association stands with a seven years' record of continuous success, and gradually ascending markets all the while. Next comes the Citrus Fruit Exchange, which, with modified plans to embrace large commercial packing concerns, represents a large body of small factors compactly welded into one massive operating office. Then the Raisin-Growers' Association, the history of which is too well known to need repetition. And the Fresh Fruit Distributors, controlling ninety-seven per cent of the fresh-fruit shipments, and so administered that for the first time in the history of the State the whole crop was marketed without a glut at any point at any time within the season. And then the Vegetable Union of the south, which has made a record equal to that of the Distributors for two successful seasons. And last of all the Prune Association, which hath been but which is not now.

Of these six great organizations of producers, the Raisin and Prune Associations may be defined as liberally democratic in their government; the others are operated on lines of representation bordering on autocracy.

The problem of organizing, in all its details, is insignificant as compared to the marketing problem. In the consideration of this problem there are three distinct classes of our products which must be considered separately, for the methods that apply to one can not possibly be used with another. We have: 1st, Immediately perishable fresh fruit and vegetables; 2d, Semi-perishable citrus fruit and apples; 3d, Staple cured fruits, raisins and prunes.

President Berwick, of the Postal Progress League, has told you what the Postal Department might do for fruit-growers. I will only emphasize. The establishment of a parcels post service in the United States, such as already prevails in every civilized nation worthy of the name, will bring producers and consumers so close together that, by one fell stroke, all unnecessary middlemen will be eliminated. Mark the words: "unnecessary middlemen."

In the three classes of products which we have to market I mentioned the immediately perishable fruits, such as cherries, apricots, peaches, plums, pears, etc. The path of progress which this branch of the industry has trod these many years is full of pathos and some glory. Out of the wrecking influences of great competition has come a welding of antagonistic interests which has eliminated unnecessary losses and brought us through an entire season of marketing perishable fresh fruit without the evidence of the usual glut at any point. It is true that there have been many contributing causes to the successful results on this year's deciduous fruit crop. The main contributing cause, however, was the unanimous action of over ninety per cent of the shippers in distributing their product properly.

A fundamental point in the success attained in the marketing of fresh deciduous fruit is the open auction-rooms of the important Eastern cities. The auction houses of the East, when conducted in large and important markets, are the bulwark of safety and protection to the producers of our fruits. They give absolute publicity to prices, with the added advantage of concentrating all competition behind the price-making.

Are auction reports reliable? is a question I often have put to me. Those of you who have attended a fruit auction sale in any of the large Eastern cities could not entertain any doubt. There is an open room, open to all the trade from the humblest peddler to the richest wholesale jobber. Is an auctioneer offering the fruit to the highest bidder? The auctioneers are licensed under State laws, and the records of the auction sales are always subject to the inspection of State officials or the public on demand, with enormous penalties for false reports. A printed catalogue is offered before the sale, and with this in hand the buyers go and inspect the separate lots and then mark down their condition upon the catalogue. Every one of the several hundred buyers has one of these catalogues. The sale is called to order and the fruit offered to the highest bidder. Every one of these buyers keeps a memorandum of the prices for the lines of fruit as sold. In the motley throng of people who attend the sale are men of every nationality, from every part of the globe, and of diverse social condition. A combination among such buyers would be miraculous. If a combination were made, there is nothing to prevent an outsider from slipping in and breaking it. The auctioneer is always able to take a fictitious bid. He stands facing an assemblage of four hundred buyers. When the bidding is slow, I assume that he frequently raises the figures as he goes along. I assume this because he frequently comes to a limit in the bidding and knocks it down to a man who says he made no such bid. The auctioneer scolds the man for waving his catalogue, and reoffers the line. On such a happening as this, you can depend that the auctioneer has been

faking the buyer a little, and when it comes to a showdown, the one auctioneer has more opportunity of conspiring than all the buyers if combined together.

On the sale of semi-perishable fruits, such as oranges, lemons, and apples, I do not believe in the ultimate practicability of any system except the home auction system: the sale of these fruits, of good carrying quality, at the depot of shipment, or at some central point in California, to the speculator of the East or of our own State, giving the owner of that fruit the opportunity, if he is not satisfied with the bid that is offered, to speculate himself, to buy it himself if he likes. You can go in any open auction-room and buy in your own fruit. To sell oranges and lemons under the home auction plan, I would recommend for northern California that it be started at Oroville and at Porterville. For southern California I would recommend that it be started at Colton, and the sales held daily; Colton being the central point to which all the shipments could be brought over night. I would consider the success more certain if the bidding were not spirited at the beginning. I would like to see them get such bargains that would make them all feel like having a representative in California, or one member of the firm coming out to spend the season, not necessarily to buy, but to pick up "snaps" if he sees them. Every "snap" that was picked up would only insure the certainty of the operation of the plan. This battle was fought and the same system was established in New York and in other Eastern cities, and was established against the same odds. Why that system could not be transferred to Porterville, to Watsonville, to Oroville, and to Colton, I don't know. The expense of selling at auction is very light. The Eastern representatives could advise their principals about what figure they thought certain brands and lines should bring in the sale the following morning, and, banking on the judgment of their own men, the managers here could buy this fruit in, in fact, re-invest the growers' money, and against them is the price record, which they will either exceed or fail to exceed. It has been argued that the Eastern fruit buyer would not care to come out here and bid for fruit against the man who owns it. He does it all through the East, in all the Eastern auction-rooms. When a few "snaps" occur in the sales, he soon gets over his disinclination. The enticement of a bargain will result in his wiring his broker: "Well, if you can get them for so and so, take them in," and will probably result in the personal attendance of one member of the firm at each sale.

In conclusion on that topic, I believe that all the oranges, all the lemons, and all the apples of the State could be successfully sold in California by the home auction method, and not the least of its benefits would be that we would operate our picking forces in the orchards as the demand expressed itself.

LOUISIANA PURCHASE EXPOSITION.

BY J. A. FILCHER, OF SAN FRANCISCO.

Mr. Chairman, and Ladies and Gentlemen of the Convention: The Merchants' Association of San Francisco is a very strong and representative body. It is moving energetically in the effort to have the metropolis of this State properly represented at St. Louis. It has been working zealously in that regard, and Mr. Wiggins of Los Angeles and myself have been working as energetically as we know how to try and interest the people of the metropolis to do what you in Fresno County are doing. You are trying to do something distinctively for the benefit of this county, in co-operation with the commissioners, and inasmuch as the counties generally of the interior are doing that, we can not consistently take State money to do special things for the several localities that are neglecting this work. We will take Fresno County, for illustration, because the people here propose to put up Fresno money for the purpose of specially emphasizing some of the strong features of Fresno—it is not fair to take State money to advertise the strong features of San Francisco. Los Angeles wants to get in with the stereopticon, and San Francisco should be there also. We will have in our State building a splendid hall, where we propose to hold free lectures illustrated with stereopticon and kinetoscope views, and we propose to advertise them in the World's Fair Bulletin. From past experience, we know that there are thousands and tens of thousands of people at all expositions looking for something for nothing; they are looking for the free things and they are looking for a rest. The exposition grounds at St. Louis are very large, and by the time the visitors have wandered about until noon or two or three o'clock in the afternoon they will want to come to the California building and sit down in a comfortable chair and listen to a lecture illustrated with slides and moving pictures, explained as they will be by the lecturer. The scope of these pictures is calculated to take the visitor from the time he enters the State, by one route or another, through all the leading sections of the State, showing by illustration not only her industrial features, but her scenic beauties and her hostelrys and resorts and all that in this State is interesting. Now, it is probable that this locality would like to have a few slides and probably a moving picture in that lecture, and no doubt will have them, and if it does it will pay for them, because we have given the concession to certain gentlemen who are going to conduct this thing, and they expect to get their money out of the resorts and the institutions that make money out of tourists and home-seekers. If Fresno wants a picture of the vineyards of Fresno, or of the packing-houses of Fresno, it will not have to be paid for, because those are industries material to the State and will be represented as a State feature; but if

there is some spring, or some house, or big hotel, something of that kind, the party who makes money out of that must pay money for the slide.

Before the Merchants' Association last night, however, there were speeches on different subjects. First, why San Francisco should exhibit, and I thought that was almost answered in one sentence by the speaker who replied to the toast. "For the same reason," he says, "that a man answers a girl, when she looks in his eye and says: 'Why do you love me?' 'Because I would be a darn fool if I didn't.'" And when you say: Why should San Francisco exhibit, the reply would be: Because it would be a darn fool if it didn't. The scope of the next speaker's remarks was, what San Francisco could exhibit, and how it ought to do it. My remarks, as accredited to me in the program, were on the general scope of the Exposition and the state of preparation. I remember that I premised what I had to say by referring, first, briefly to the reason for the Exposition. I said, if I remember rightly, that it had been the custom of mankind, since the beginning of time, to celebrate great events affecting their welfare, and I said, and repeat it here to-night, that the purchase of the Louisiana territory was one of the greatest events in the history of the United States. Prior to that time, Spain hampered us on the south. It was not until sixteen years later that we acquired the territory of Florida and the strip of country along the Gulf to the mouth of the Mississippi River. West of the Mississippi River we ran into Louisiana. Therefore, the mouth of the Mississippi River and key to the commerce of the greatest valley in the world was cut off from the United States, as all the western border of that country was owned by France, and I said and now repeat it that it seems as though it was a providential occurrence, designed for the greatness of this country, that Napoleon, hampered at that time by the threats of England, was in a position where he needed money worse than he needed territory in a far-off country, and was willing to relinquish his right to that empire for what seems to-day the paltry sum of \$15,000,000. By that purchase, negotiated by the American minister, Robert R. Livingston, on the one side, and Napoleon's minister on the other, we secured an empire, and we opened then and forever to this country the commerce of the Mississippi River and the great valley adjacent thereto. This empire extended from the Mississippi west to the summit of the Rocky Mountains, and at the suggestion of the French minister, Beaupre, the western boundary was left undetermined. France claimed positively to the summit of the mountains. She had a shadow of a claim to the country lying farther west, and was then disputing the right to the northwest with Spain on the one side and England on the other. Immediately the Lewis and Clark expedition started from St. Louis—and it is an interesting fact that it happened to be St. Louis

that it started from—to explore this northwest territory lying beyond the Rocky Mountains, and to secure it, if possible, for this country by reason of exploration and settlement. Without the purchase of the Louisiana territory, that exploration would not have been made. Without that exploration we could not have extended our domain to the Pacific Ocean, and without those results we would have still been hemmed in by the territory lying over toward the Pacific. But all these things seemed to work together for the glory of this country, and established then and forever the prestige of the United States as the dominant power in the western empire.

Now, is it any wonder that those realizing the importance of this event, the fact that this gave us fourteen states and territories, 100,000,000 square miles of land, and for only \$15,000,000—much of which was sold again by this Government for \$800 a square mile—an event which gave us all this, and which opened up to commerce all the great richness of the Mississippi Valley, which gave to us the inestimable mineral wealth of the Rocky Mountains, which led the way to extending our territory to the Pacific Ocean and spread our empire from sea to sea—is it any wonder that those realizing these facts should have felt it was an event in the history of this country demanding some kind of fitting celebration? It was suggested in the assembly of the Trans-Mississippi Congress that this event ought to be celebrated. It only needed to be stated to be approved, and after being approved by resolution of that congress the Governors of the Louisiana States appointed delegates to meet in convention in the city of St. Louis. They met there on January 10th, in 1899—ninety-three delegates in all. They first discussed the idea of commemorating the event by the erection of some great monument somewhere within the territory; but it was said that no monument ever built by man would be large enough to commemorate so important an event. It was said by another: Let us celebrate it by a World's Congress, a World's Fair, and let us make it the greatest that has ever been held in the world. That idea predominated, and they appointed an executive committee to carry it out. They decided on St. Louis as the place where that fair should be held, because St. Louis, with its 600,000 souls, was and is to-day the great distributing point of the West and the greatest city in the territory purchased. This executive committee made and decided on a plan to finance this great event. They said: We will start in by raising \$15,000,000 for the celebration—the same amount which was paid for the territory. And as to how they should raise it, it was decided that they would ask the people of St. Louis and Missouri to give them \$5,000,000, by personal, private subscription; they would ask the city of St. Louis itself to give them \$5,000,000 more, and they would ask the government of the United States for \$5,000,000. Early in 1901 it was announced proudly

by the enterprising citizens of St. Louis that the \$5,000,000 was secured. Immediately afterwards the city voted \$5,000,000 of bonds for the purpose, and in the following March, 1901, the Senate of the United States passed a House bill appropriating \$5,000,000 more. With this \$15,000,000 the success of the Exposition was assured, and they began energetically to prepare for the same. President McKinley, not a great while before his death, issued his memorial invitation to the countries of the world, setting forth what it was proposed to do, and asking them to participate in the celebration, and through the ministers of the United States this memorial was presented to every civilized court on the globe. They accepted the matter slowly, for the foreigner is rather phlegmatic and slow to wake up to great events, especially when they are events in which he has little interest; but, little by little, the importance of the celebration was pressed upon them, and one after another they have come into line, until to-day it can be said with pride that fifty foreign countries have signified their intention of participating in this splendid exposition. Pressure in the meantime was brought to bear on the States, and to-day thirty-seven out of the forty-five States have made direct appropriations for a participation, and four of them, making forty-one in all, have raised from \$50,000 to \$200,000 by other means for the purpose of representation at St. Louis.

Altogether there are something over one hundred buildings being erected there, and when I say altogether, I mean, first, the fifteen magnificent government buildings erected by the executive authority. Then come in the State buildings, then come in the foreign buildings—and many of the foreign buildings are of splendid proportions. France has reproduced there the Grand Trianon palace of Napoleon at Versailles, fourteen miles from Paris, visited by all tourists to that country. England has reproduced the Kensington palace, and other countries are putting up buildings of historic interest and fame. England is spending in St. Louis \$700,000, Germany is spending \$750,000, France is spending \$700,000, Brazil in South America is spending \$600,000, Japan is spending over \$500,000, and our little neighbor on the south, Mexico, has appropriated half a million for a fitting representation at that Exposition. These are only instances of what foreign countries are doing. I say to you that it promises to be by far the grandest and most magnificent aggregation of the efforts of mankind, intellectual, scientific, and industrial, that was ever gotten together on the globe.

To indicate its proportions, let me say to you that this great fair is being held in what is known as Forest Park, embracing some 2,500 acres; the western portion of it and the least improved is occupied by this fair. An area of 1,200 acres was set aside for the purpose; but subsequent events proved that there was a crowded condition, and they

subsequently rented what is called the university grounds, with the university buildings thrown in, buildings that cost over \$1,000,000, paying \$75,000 rent for them for one year. They have since leased what they call there the Skinker tract, another large body of land; all of which, added to the original domain, makes a body of something over 1,500 acres, and this against 600 and some odd acres in use at the World's Fair in Chicago. The buildings there, the large Exposition buildings, are fifteen in number—the smallest of which covers about 4 acres, and the largest of them about 20 acres—covering in the aggregate 128 acres of floor space, as against 82 acres covered by the buildings in Chicago.

The money required to open the gates of this Exposition, in the aggregate, as estimated, will amount to about \$50,000,000, as against \$28,000,000 expended in Chicago, and yet we who saw the Chicago Exposition, held ten years ago, believed it was the triumph of the efforts of man in this generation. I remember when I went in the gates and looked upon those tremendous structures, so awe-inspiring in their immensity, so grand and magnificent, out-rivaling anything that my eyes or the eyes of ordinary man had ever rested on before, I was overwhelmed, and stood there for the time and looked and looked again to contemplate and wonder that puny man could do things so grand. And yet Chicago's exposition was small compared to what the exposition at St. Louis will be.

All the proportions of this St. Louis celebration are on the most magnificent scale, and I want to say to you that everything is in a splendid state of preparation. Already seven of those fifteen buildings are absolutely finished, and when I say "finished" they are finished. I have seen a great many exposition buildings, but I never before saw one finished until the exhibits were in and sometimes after the exposition opens. When you get in there, you will see that the buildings are clean, their floors are washed, the plastering on, and the floors marked, all in readiness for the exhibitors to go in and put up the structures. Some of them are marked 99 per cent finished and some 98 per cent finished, and the one farthest behind—the Forest, Game, and Fish—is accredited with being 70 per cent finished. In the aggregate, the State buildings, foreign buildings, Midway buildings—or as they call them, "Pike Buildings"—all the buildings of the grounds, including the Stock buildings, including the Filipino buildings—40 acres there—including all road work, the canal work, the façade work, and all the work of installation of machinery, power plants, and all those things, Director of Works Taylor reports the first of this month that, all told, 88 per cent of the entire work was finished at that time; and 88 per cent is just 40 per cent nearer completion than the Chicago World's Fair was five months before it was ready to open its gates; so the indications are that it is going to be ready—all ready.

The wide avenues are beautiful and smoothly paved, and people can walk all over those grounds without miring of a wet day or walking in the dust of a summer afternoon. The indications are that it is going to be pleasing, and the grounds surpassingly beautiful. This hall is about square, but you can imagine a rectangular space a third longer than it is wide; now a line from that corner to that, and the portion over there to be practically level, and this portion rolling or undulating, and you will have some idea of the condition of the surface of the park; and on that level portion of the ground, the buildings, or most of them, are lying in fan shape, starting over here and coming up to a common point on the hill, and starting here and coming to a common point, with avenues 600 feet wide, and a beautiful lake for the gondolas, with branching canals in the center of the avenues. At the center of the forks, the handle of the fan, you have, on the brow of the hill, the peristyle, about 60 feet high—or the façade, I have forgotten exactly what they call it in architecture—but a beautiful structure, a colonnade, with beautiful columns beautifully figured with architectural designs commemorative of the early history of this country, 1,500 feet long, in a semicircle; at either end a magnificent tower arises, and in the center stands a temple, a great structure, and in this temple all the congresses of the world will center. Between the temple and the towers on the end are the cascades, so arranged that the water will fall, step by step, one little fall after another little fall, from the top to the bottom, in a long semicircle, and each of them going over stained glass, to represent a different color. Forty thousand horsepower will be used to generate electricity, and the intention is that the illumination shall outclass anything ever before seen on earth.

These are the conditions, and it is to this greatest of expositions, my friends, it is to this magnificent showing of the world, it is to this point where the people of the world will congregate, where the critics of the world will come, that we as a State are asked to go and participate, and the question that comes right up to us is, shall we be represented, and how shall we be represented? The commissioners say we shall, and that we shall be creditably represented, and to that end they are working with all the zeal and energy and talent they possess, and propose that no effort shall be lacking, that no stone shall be left unturned in the accomplishment of this end, to a degree that shall be satisfactory to you and to them, and, as far as possible, to all the people of the State of California. We understand that we are limited in the matter of finances. In Chicago there was \$327,500 of State money expended, and we have \$130,000, and yet we have grown greater since that time, and we are going to an exposition vastly greater. We have made a reputation in that time for doing things grand and beautiful, and people abroad expect much from us, and you can understand our embarrass-

ment when we undertake with \$130,000 to meet the expectations of our foreign critics; yet we believe that, by the generous co-operation of the counties and the communities of this State, assisted and encouraged by public-spirited men of the State everywhere, and reinforced by the press, which will lend a helping hand—we believe that when the final exhibit is installed, the result will be a triumph of effort on the part of California, one that will reflect credit on you and result in great benefit to the State.

On motion of Mr. Stephens, a vote of thanks was tendered to Mr. Filcher for his attendance and for his very able and eloquent address.

THE RAISIN GRAPE COMMERCIALLY.

BY ROBERT BOOT, OF FRESNO.

The raisin grape, although introduced into this State fifty years ago, has not been of commercial importance more than half that length of time; the total production for the State in 1876 being in the neighborhood of 600,000 pounds of raisins, which increased by leaps and bounds up to 1894, when the production reached 103,000,000 pounds, at which time the industry was suffering great depression in consequence of the unorganized producers' eagerness to force a twelve months' supply of raisins on the market in ninety days. The business of the vineyardist became unprofitable, raisins were sold for less than the cost of production, and many thousands of acres of vineyard were destroyed. This depression existed more or less acutely up to 1898, when the vineyard men organized under the name of the California Raisin-Growers' Association, since which time the business has been carried on on a profitable basis, the production increasing until the high-water mark of 115,000,000 pounds has been reached this season.

The vines from which this large amount of product is derived are among the choicer varieties of *Vinifera*, imported from Spain, and are known as the "Muscat of Alexandria" and the "Gordo Blanco Muscatel"; the latter is distinguished from the Muscat by its lower horizontal growth and its round berries, in contrast with the upright growth and oblong berries of the Muscat of Alexandria. The Malaga grape is also largely cured for raisins, but is destitute of the Muscat flavor, and, being a thicker-skinned, coarser grape, is not so highly prized for this purpose as the Muscat. This reason, and also the difficulty of removing the cap stem, make it objectionable as a seeding raisin, but, on the other hand, make it more valuable as a shipping grape for table purposes, and large quantities are annually shipped to supply this demand. It is said also to make an excellent quality of Valencia raisin for cooking purposes. Our raisin production also

includes the cured product of the Seedless Sultana and the Thompson Seedless, which amounts to several thousands of tons annually.

The area in the State devoted to these varieties of grapes is estimated to be 64,000 acres, but this is probably an underestimate to-day, in consideration of the many new vineyards planted in the last few years, which more than counteract the loss by old vineyards being put out of commission by alkali and other causes. The average yield, covering a series of years, does not exceed three-fourths of a ton per acre for the State, proving that a considerable area is devoted to raisin-grape growing that is unsuitable for its cultivation and unprofitable to the owner, as in most raisin districts there are vineyards which are known to produce double, or more than double, that amount.

The counties of Yolo and Solano have the credit of producing and shipping the first consignment of raisins in merchantable quantities; closely followed by Riverside, San Bernardino, Orange, and San Diego counties, and lastly by the San Joaquin Valley, which, from its favorable climatic conditions as to dryness of atmosphere and high temperature, combined with abundance of water and suitable soil, has come to the front as the banner raisin district of the State, and in which raisins of the best quality, and largest yield, at the minimum cost of production, can be obtained by the vineyardist, with probably one exception in favor of Yolo County, where they turn out an excellent quality of Seedless Sultanas.

The future of the raisin grape and the raisin industry is bright and promising, but success in this industry, as in all others, will come only as a reward for eternal vigilance. The Muscat vine, being one of the choicest and most delicate of the *Vinifera* family, is liable to suffer first from any adverse influence, and there are many adverse influences waiting to prey upon it. The deadly mysterious disease that swept the vines from the rich district of Anaheim and other southern districts and is now preying upon the vineyards of the Sacramento Valley is probably most to be dreaded, as no known specific has yet been discovered for prevention or cure. The minor evils of mildew, oidium, and kindred fungous growths are apt to attack the Muscat in preference to other and hardier varieties. Then, in the insect world, we have, first, the phylloxera, which is already with us; but conditions do not seem favorable for its propagation at a very rapid rate, and it is principally confined to the heavy red loams; it is probable that this evil can be taken care of by being prepared with resistant stocks to replace its ravages, without diminution of our annual crop of raisins. Then, the lesser pests of cutworms, sphinx worms, grasshoppers, and the thrips, which are always more or less with us and can be easily controlled by early cultivation. I have never known injury from this cause where the cultivation destroyed all weed growth in a vineyard

one week before the vines came out in leaf. Prevention is better than cure, and, on general principles, a vineyard that is kept in high condition by careful and thorough cultivation and judicious fertilizing will resist many evils from which a neglected vineyard will suffer. The use of sulphur should not be forgotten; two or three dressings in the spring act as a stimulant to the vine, prevent oidium, and, I believe, assist the early ripening of the crop.

Before leaving the subject of the welfare of the vine, I will say a few words on the subject of pruning, which is a very important part of the necessary work of a vineyard. Some vineyardists boast of the fact that they have let their pruning by contract at so much per acre—say, \$1.50, including burning the brush—and then turn the contractor and his men loose in the vineyard with little, if any, supervision, with the result that when they get through a first-class butchery has been accomplished. In some vineyards, the brush is chopped off at equal length from the stump without regard as to the number of eyes left, no discrimination in thinning, suckers even are pruned and left as desirable bearing spurs. Then again, others prune the stump bare, as though the object was to grow suckers entirely, and after a few years of this treatment they have nothing but suckers, with the crown of the vine rotten and dead. Whatever form of vine is desired, it should be remembered that the best bearing spurs grow from two-year-old wood, and that this two-year-old wood should be growing on or around the crown at regular intervals to give the most space for the hanging bunches, at the same time by a free circulation of sap keeping the whole vine in a healthy growing condition.

Drainage, in some districts, is a question of vital importance to the welfare of the vineyardist. A water-logged vineyard, with only a foot or two of soil available as feeding ground for the roots of a vine, is a poor proposition, requiring an annual artificial supply of ingredients necessary for the support of a vine and the crops; and the evaporation of this water, all of which is heavily charged with alkali, will in a short time make the upper soil incapable of sustaining any vegetable life less hardy than Bermuda-grass.

And, finally, the future of the raisin grape and the prosperity of the raisin industry will be determined by the margin of profit left to the vineyardist, over the cost of production. We all know by experience that even when the supply does not exceed the demand, the competition among the vineyardists themselves, in an effort to be the first to realize on their crop, utterly demoralizes the market, with the result that it is the impecunious grower who fixes the selling price, and that, without organization and co-operation, is always the inevitable result.

We have to-day a strong organization in the California Raisin-Growers' Association. With a very large crop to dispose of, the market

has taken a full average quantity of raisins and its present requirements are supplied; but the market is badly demoralized at the present time by offerings of raisins not controlled by the Association at $1\frac{1}{2}$ cents per pound below Association prices, which is a loss not only to the owner of these raisins of \$30 per ton, but to the whole crop of at least \$10 per ton more. The remedy for this can only be found in unanimous co-operation among the producers, and much better results will be attained if the make-shift, one-year contract could be replaced by one for a term of years, with authority given to the management to raise some capital, enabling them to expend money for efficient advertising and for the erection of packing-houses, if necessary. The subject of co-operation and marketing will, however, be presented to the Convention in a separate paper, and no better field to illustrate it could be found than the raisin grape, in consequence of the limited area in which it can be profitably grown.

HANDLING AND MARKETING THE RAISIN CROP.

By D. D. ALLISON, OF FRESNO.

The marketing of raisins necessarily depends upon a great many of the details being carried out successfully before the raisins are ready for market. The first duty of the board of directors of the Raisin-Growers' Association has been, in the last two years, to get as solid an Association as possible. About a year ago what was termed a five-year contract was placed before the growers for their consideration, so that they would have ample time before the annual meeting to digest it thoroughly and pass upon it, and so that the work of the Association could proceed speedily and successfully for the coming year. At that annual meeting the contract was passed upon affirmatively and unanimously. To each grower known to the Association was sent a copy of the contract, together with a stamped envelope addressed to the Association, with the request that the grower, after reading the contract thoroughly, sign it and forward the duplicate thereof to the Association. We waited several months, and succeeded in getting about five per cent of the growers to sign; and just about the time the board of directors had decided to go on a barn-storming expedition to interview the individual growers, a meeting was called and by a vote almost unanimous it was decided to request the board of directors to change the five-year contract to a one-year contract. The board of directors called a special meeting and submitted the question to the growers, and they decided to change it to a one-year contract. When the vote was counted, on the assumption that there were in the State of California 64,000 acres planted to Muscat grapes, we found that we had about 93 per cent of the acreage; but in the last two days we succeeded in getting 20 per

cent of that 92 or 93 per cent. Everybody in this community, no matter whether a shoeblack, a banker, a barber, or a butcher, realized that the success of this Association is the success of every individual here. It was only by supreme effort on the part of everybody in this community that we succeeded in holding it together. I do not think you could ever get 100 per cent of growers in any organization of this kind on the face of the earth. Now, we thought we had 93 per cent, and yet out of a total of 118,000,000 pounds the Association has received 96,000,000 pounds, and outside of the Association there are about 22,000,000 pounds. We know that positively, and we know positively that men who signed the contract delivered part of their goods to the Association and then in the "wee sma' hours" of the morning hauled their goods to an outside packer. We know that men will sign with the Association and then go to outside packers to see if they can get a bid on their goods, and if they can get more for their raisins by so doing they will leave the Association in the lurch and sell to the outside packer. We know that men deliver their goods both to the outside packer and to the inside packer, thus working against their own interests. We know that men will go around and solicit every grower in the country to sign these contracts and will preach to them the doctrine of co-operation, and will come into our office and preach it to us, and yet have never signed a contract with the Association. That is one of the problems we are up against.

There has been a great deal of criticism about the board of directors reducing the price of raisins this season. Whenever I vote for a director to represent me in any organization, I do so because I think he has intelligence enough to attend to my business for me. The idea of electing a small body of men to represent a large body is because in that way the business can be done more successfully and more profitably for the whole mass. The board of directors has been censured repeatedly because it does not publish the details of the business. To do so would be to frustrate the very point the Association was trying to reach. We have traced up whence all this squealing has come, and have found that it is from the pen of the outsiders. It is not from the man who has been supporting the Association. It is from the man who has received the benefits of the Association ever since it was formed without paying a dollar or a nickel toward its support. We are running our business to suit ourselves and the gentlemen whom we represent. These outsiders never extend any sympathy to us. They were getting the cream of the market in the opening of the season, because they were cutting under us. They never said a word, they never apologized then for not placing a little money in our hands to help defray the expenses of keeping up the organization, but they now complain because we did not advise them beforehand of what we were going

to do. This is the first time in the history of the Association that there has been a good squeal from the outsider, and I hope it will not be the last. These gentlemen were selling their goods to the outside packers, below the Association price. They had what they called a soft snap, and their faces would beam with the most gracious smile that you could picture in your mind, and we swallowed it; but one fine day they heard that the prices were going to be raised, and there was a gathering of all the goods they could get hands on. The growers thought they were going to get bigger prices, that the directors were going to play right into their hands, and that they were going to have a fat thing this season. We kept our word with the trade; we raised the price, as advertised, but at the same time we thought it advisable to lower the price on the loose article, and consequently there was a wailing and gnashing of teeth for several days afterward. It caught the outside grower and it caught the outside packer, it caught the outside jobber and broker, and everybody else on the outside. We had sold some loose raisins. We guaranteed against a decline. We did not guarantee not to reduce the price, because that would have been too soft a snap for the outsider. He is the fellow who is causing all the trouble. To all purchasers at the higher price we made a rebate. Call it a trick, if you wish, but give it a broad meaning. The moment we reduced prices we notified every broker who had bought a pound of loose raisins from us that he was to make out his bill and we would give him the rebate. Now, that is not robbing anybody, is it? I pledge you my word I have seen a mass of complimentary letters from commercial houses saying that this was the finest stroke that the Association ever made to retain the confidence of the trade back East.

Now, some wonder why the sale of raisins has been chopped off so abruptly. If after supplying the Thanksgiving, Christmas, and New Year's trade there is a surplus of raisins, if it is a short crop, not too much for the Association to carry over, it can be readily sold to the packers to supply the late spring and early summer trade prior to the next crop coming in. But if there is on hand what we call a large "carry-over," then it necessarily has to be carried over until the next crop and there is a chance of bucking up against the crop of next year, which would reduce their chances of getting back the money they might have invested. Last year we had a very large crop, but on account of the expectation and the probability of the five-year contract being signed there was encouragement for the commercial packers of this community to purchase the overstock of the Association, what is commonly called the "carry-over." They came in and bid a good, round price, and we sold out all our stock and paid the growers every nickel coming to them before the annual meeting—something unprecedented in the history of this Association. The annual election went,

I presume, to the satisfaction of the majority of the members of the Association, and everything looked glorious. We were selling lands and vineyards, planting new vineyards, and putting up the price of land—it was a land of milk and honey. The five-year contract went out and we supposed that the people were going to sign it and send it in, but they did not, as I told you before. The longer the signing of the contracts was postponed the more nervous the packers got. They had the goods, and there was a prospect of another crop being harvested equal to the one of last year. It was only about three weeks or a month before the day set for making the final account on the credit of these contracts. This meant the life or death of the Association. We noticed an unusual stir among the packers. They stood to lose about \$200,000 or \$250,000 if the Association was not a go. No wonder they were nervous. They had put their money into it, paid us our price, and if they could make something out of it they were entitled to it. They got together and, with all the energy they were able to exert, they helped save the Association for this year. Now then, we have a one-year contract with no prospect of a five-year contract at this time, consequently we can not get the packers to buy any of the "carry-over." The object of the five-year contract is to enable the Association to absolutely control the product from year to year; if a grower signs the contract for five years and does not fulfill it, then the Association can start a lawsuit, and if he wants to carry it to the United States Supreme Court the Association can follow him up and within five years it will be settled, but with a one-year contract it can not be done. I believe that every man has a right to live, and if he has invested his capital he should enjoy the privilege of making a living. If commercial packers, or any other packers, will deal squarely, honestly, and faithfully with this Association or any other association to which I belong, I say let them live; but if they do not, I always like to belong to an organization that can say: "All right; if you don't want to, we are not dependent upon you." The Association should always have say \$50,000 or \$100,000 as a reserve fund. We paid enough rent to the packers and seeders combined in one year to put up packing-houses and seeders, I presume, sufficient for all eternity, and yet the growers will not recognize the fact. We are ashamed to tell you what we pay them, but they are not ashamed to take it, and if we can make enough money besides we are not ashamed to give it to them. That is the difference between the five-year and the one-year contract.

I have but one thing more to say, gentlemen. It is necessary to make the Association a success, and to be a success it must be a solid association. That is all. Let all stand together, shoulder to shoulder, with one mind, with one intent from the time the contracts are signed until the crop is disposed of, no matter how long it takes, taking the

risk of getting a lower or a higher price in the spring or early summer. If every one will be agreed on that plan, to work one with another in a solid body, there is no organization of agriculturists or fruit producers, as one speaker has said, that can possibly be a failure. All that is necessary is unity, to present a solid front, as one man, and let every one stick up for the Association as against all or any one who attempts to take a whack at it. Until that shall be done, it can never be made a complete success. Let one car go into a market where there are twenty or thirty cars, and a lower price on that one car will demoralize the price on all the others, every time. If a car goes East from an outsider or any other party and is quoted one eighth below, every packer in this vicinity will get a telegram from one of his brokers: "Can get them cheaper, one eighth under the price. If you don't wire quick we will buy from the other fellow." When you elect men to conduct your business you should have confidence in them; if you have not, ask them to step down and out and put in those in whom you do have confidence. It is no use to bicker after the die is cast and the men are chosen. Bury all differences until the next meeting, and then go at it hammer and tongs and get your men in, or lose.

MR. BERWICK. Mr. Chairman, there was one little omission in the proceedings this afternoon. Some resolutions relative to the parcels post passed unanimously. I should like to make a motion that they be transmitted to our Senators and Congressmen of the Pacific Coast by our worthy Secretary.

Adopted.

At this time a recess was taken until Thursday, at 9:30 o'clock A. M.

PROCEEDINGS OF THIRD DAY.

THURSDAY, December 10, 1903.

The Convention was called to order at 10 o'clock A. M. Vice-President McIntosh in the chair.

VICE-PRESIDENT McINTOSH. The first proposition this morning is some announcements, which the Secretary will read to you.

Secretary reads announcements relative to reception by the ladies of the Parlor Lecture Club and excursion over the lines of the Fresno City Railway Company.

MR. SPRAGUE. Mr. Chairman, I wish to offer the following resolution:

WHEREAS, The system of transmitting money by mail through the present money-order system is cumbersome and unfitted to the needs of present-day commerce; and

WHEREAS, H. R. Bill 1976, recently introduced by Mr. Gardner of Michigan, provides for the issuance of a post-check currency in conformance with the recommendations of previous House committees; therefore

Resolved, That this Twenty-ninth State Convention of the fruit-growers of California does heartily indorse the immediate adoption of the post-check form of currency, and that the Secretary be instructed to forward a copy hereof to the Post-Check Currency Bureau, at 825 Vermont Avenue, Washington, D. C.

Referred to Committee on Resolutions.

IMPROVEMENTS IN METHODS OF BENCH-GRAFTING.

By PROF. E. H. TWIGHT, OF BERKELEY.

As we all know, "Bench-Grafting" is an expression used in opposition to "Field-Grafting," and means making a graft on a cutting before it is planted; as this is done generally in-doors and before a bench, we have the expression "bench-graft."

Let us, in a few words, go over the process of bench-grafting resistant stock. The cuttings or rooted cuttings are brought into the work-room, assorted according to size, and cut to the right length; the scions are also assorted according to size and cut to the right length, which will give us a scion with one or two eyes, according to whether the wood has long or short internodes. The grafter picks a cutting and a scion of the same size and makes the graft, the whip tongue being generally used. The grafts are generally tied with raffia, cotton rags, or waxed string, and are placed in a callusing bed or direct in the nursery. We will not go over the care of these grafts to-day.

This brief account of bench-grafting shows us a method that seems very simple; yet how few people in California can say that they have been successful with it? The reason for this is undoubtedly due to the failure of observing the many little details which really make the method a success or a failure.

I would like to mention a few of those little practical points in the method we have been using, before taking up some improvements along new lines. Starting from the making of the cutting we should give particular care to the following points: The cuttings should be chosen with eyes close to one another; on the stock this will give good rooting qualities, and on the scion it will allow generally two eyes. The time at which the cuttings are made must be considered; the wood must not remain on the vines in the spring until the sap starts to move; the cuttings must be buried completely in dry sand, in a cool room or cellar, so that they will remain in the same condition as they were when first cut. When ready to start grafting, enough cuttings are taken out for a couple of days' work; they are placed in running water or standing in tubs where the water is changed frequently, and are thus allowed to soak for a couple of days before being used. The wood thus prepared absorbs a good deal of water and is much easier to handle, at the same time enabling us to keep a better edge on our grafting knife. The importance of cutting the eyes on the stock before grafting is also too often overlooked, and this means a large expense for suckering.

But possibly the point where we find the most neglect is in the callusing bed. The temperature of this bed must be kept as constant as possible, so that the callus will be formed regularly and evenly, thus giving us a good solid graft. The sand bed must be on a southern exposure, protected by a wall on the north side; it must be well covered at night and the temperature and moisture watched daily; in this way only is the callusing of any advantage. If we simply leave the cuttings in the callusing bed without any attention we might as well save that work and plant direct in the nursery.

But even if all of these points are observed, we feel satisfied if we get fifty per cent good grafts. If we were sure of this percentage and took care to have resistant cuttings at a reasonable figure, as they should be, replanting on resistant stock would cost far less. But—there is a but—we have not been able to figure on that fifty per cent; possibly one of the great factors against us being the unreliability of the help we have to use.

It is in the improvements made in order to guarantee a better return and a saving in the first cost that I want to call your attention to-day.

One of our costly features in bench-grafting is the tying of the graft, and after that its untying. If the material used does not rot quick enough it has to be cut, and this is slow and careful work; if the

material used rots too quickly our grafts are apt to be displaced and therefore lost. If raffia is used and it is dipped in bluestone solution and not carefully washed in running water, the callus is apt to be harmed by the copper. So it is no wonder that the vineyardist has tried to do away with the tying.

If we do not tie, the handling of the graft by our usual method becomes quite delicate; and really the callusing in sand is objectionable, as we are apt to lose many grafts in passing from the callusing bed to the nursery. But if we plant an untied, newly-made graft direct in the nursery, we are apt to lose many during the planting.

An attempt was then made, with the aid of moss, to pack the untied grafts in boxes until the callus was formed, the grafts and the moss being taken out of the boxes in the nursery with one handling, and the moss allowing of better handling than the sand. Since the first trial of this method many improvements have taken place. The moss is mixed with charcoal, which absorbs the excess of moisture and prevents the formation of molds. The moss has been replaced to great advantage by sawdust, especially for the packing of the sides of the boxes.

The boxes used are generally 3 feet long and 18 inches wide; the depth depends on the length of the cuttings and scions used. Allowing 4 inches for the bottom packing, 12-inch cuttings, 4-inch scions, 2 inches for the top covering, and a 2-inch edge, we have a depth of 24 inches. This size of box (36 by 18 by 24 inches) has proved to be quite handy to handle; a larger one is too heavy and the temperature inside can not be kept even.

In the bottom of the box three or four rows of holes are bored, so that if dipped in a bath the water can run in and out easily. Inside of the box, on the upper side and two inches from the top, a line is drawn to help in placing the grafts evenly.

The dry moss is kept in storage until needed; it is then dipped in water and placed on trays to drip; after which it is spread in a layer, and coarsely-crushed charcoal sprinkled on it; then another layer of moss and another of charcoal are made, and so on; when all is thus prepared it is worked up with a pitchfork, so as to get a homogeneous mass. Moss is used for the bottom and for the sides of the box. To cover the tops of the scions the moss is first chopped up before being mixed with the charcoal; the proportion of one of charcoal to three of moss, by volume, has been found to give the best results. The volume of the moss is estimated after it has dripped on the trays.

When ready to start the packing of the grafts, the box is placed on its small end, the sliding or hinged side being on the top. Two inches of unchopped, prepared moss are laid on the lower side; the grafted cuttings are then laid flat on this moss, close to one another, two inches of moss being placed on the sides as the pile is made. This packing of

moss on the sides must be fairly tight, so that the cuttings will not move when the box is handled. When the box is filled up to two inches from the top, the balance is filled with moss and the lid is brought down and fastened. The box is then straightened up, and we have before us a center part showing the sections of the scions, and around this on all four sides we have a layer of moss mixed with charcoal. If care has been taken to lay the tops of the scions level with the aforementioned line, the surface will be level. The top of the box is now covered with two and a half inches of the chopped moss and charcoal.

When this process was first tried, the boxes were handled in a way similar to the method pursued with the "sand callusing bed"; they were placed out of doors in a sunny exposure, and covered up at night or on rainy days so as to keep the temperature as regular as possible. This way of handling gave fairly good results, but an improved method of handling the boxes has been devised by the Moet & Chandon Viticultural Station. I must say that it is to their courtesy in furnishing me with complete data on their experiments that I am able to give you this information to-day.

In this method, the boxes are placed in a hothouse, where the temperature is kept constant by means of a stove, or better, by a system of hot-water or steam pipes. In a small room a chicken-incubator regulator and lamp could be used, or a gasoline or oil stove. The hothouse should be well built with double walls, or it may be buried in the ground up to the roof. It must have good ventilation, so that an excessive temperature accidentally obtained may be promptly dropped. It must not be too strongly lighted.

We will give a description of a small building that would take care of from 170,000 to 250,000 bench-grafts; using boxes 36 by 18 by 24 inches, as we described before, that will hold about 4,000 grafts. Such a building would be 12 by 18 feet inside measurement, sides 8 feet high; on three sides it is buried 7 feet in the ground. A run-off should be made under the roof's eaves for the purpose of carrying away the rain water. Three inches are allowed between the boxes in the rows and at the back; two or three rows of boxes, one above another, are allowed on each side of the house. If three rows of boxes are used one above another it would require 10 feet of walls instead of 8 feet. Two rows high are handier to handle, and would permit the taking care of 170,000 bench-grafts—enough for over 120 acres, estimating that 50 per cent would be good grafts. Hot-water pipes are run close to the floor; a small kitchen stove with water-back being used for an ordinary room like this. In this particular building the top of the gable and the double walls were filled with chopped straw; the roof had large glass sashes, which were covered most of the time with matting, so as to

allow a diffused light to pass in until the very end of the stay of the boxes.

After numerous experiments at different temperatures it was found that 86°, with a variation not to exceed 9° more or less (77°–95°), was most favorable.

Now let us follow a box packed as we have explained. After it has been in the hothouse twenty-four hours the buds start to swell; toward the fourth day they have grown quite a little, and about the sixth day they may be one inch or more in length. The callus has clearly started and a whitish streak of new tissue can be seen along the section of the graft. Rootlets have also started on many of the stalks. This is the time to remove the top covering so that the exact condition of the buds can be seen. If the start is even on all the surface a new layer of chopped moss and charcoal should be spread over the growing buds. A one-inch layer is thick enough and will retain sufficient moisture, as the callusing and the buds having started, the danger of drying out by the top is not feared. If the box shows an uneven vegetation—dry places, moldy spots, etc.—the thickness of this new layer of moss can be varied on the different parts; it should be made thicker where it appears dry and thinner where it appears moldy. If some spots seem to be decaying they may be left uncovered for a day and then only a thin layer of moss placed over them. At the end of three or four days this new layer should be removed and replaced by a new layer half an inch thick.

To remove the top covering of moss the easiest way is to have a large box, with two cross pieces fastened on the top. The box of grafts is then carefully placed on these cross pieces, and with the hand or a wooden spatula the moss is made to drop into the large box below. The moss and charcoal which fall into the box are carefully mixed again, and without wetting are used for the new layer which is replaced over the grafts; there is enough moisture in this newly mixed moss to keep the growth in good condition.

The question of keeping the proper amount of moisture in the box was found to be a hard one to solve. At first, sprinkling lightly the top cover was tried, but this was not found satisfactory. The method which has proved to be the most valuable consists in giving the boxes a bath; that is, dipping them in water kept at the room temperature. The water must not go above the lower four inches of moss, and it must be allowed to drip out before the box is replaced on the shelf. The first bath is given when the first examination of the boxes takes place (*i. e.*, on the sixth day); then another one is given on the tenth day, and finally another about the fourteenth day before they are taken out. An iron, wooden, or cement vat is used for the dipping. The dipping of

the boxes acts not only through the moisture it gives, but also through the strong aëration that takes place in the box.

When the callus is well formed, the roots are generally fairly long and the bench-grafts are ready to plant. If the light in the hothouse has been diffused, as is generally the case, the new growth of the scions is yellowish and looks weak, and therefore could not stand a direct transplanting in the nursery; the boxes on that account are placed for a few days in a glass house where they can get plenty of light, so that the tissues can harden and get used to the change of temperature. The temperature of the glass house is generally from 59° to 77°, and the boxes should remain therein about a week.

We may thus calculate that it takes about three weeks between the grafting and the planting in the nursery.

It is good to give the boxes another bath when they come out of the glass house, and before planting in the nursery. This bath may be at about 68° F.

This method of handling the bench-grafts makes the work more rapid; it does away with the tying of the grafts, and is carried on without much danger of loss through breakage. It enables the saving of time if the weather is not favorable to good callusing out of doors, and permits grafting until late in the season, as the grafts are forced in three weeks. It gives a callus that is perfect in its formation; therefore, the grafts will be strong and will not blow down at the first wind.

The grafts after being unearthed do not need to be earthed up again, so that there is little trouble about roots on the scions.

Only fair-sized wood ($\frac{1}{4}$ inch or over) should be used in making warm-room grafts, as it allows a better circulation of air in the boxes. This will leave us a lot of small cuttings; but a very good way to utilize these, and one that pays, is to plant them out and let them root, and then the following year use them to bench-graft in the hothouse after cutting the roots off quite close. Such rooted cuttings give a very high percentage of good grafts.

As I said before, a temperature of 86° (with an allowance of 9° more or less) has been found to be the most favorable for the hot-room. Below this the callusing is too slow; the grafts have to stay too long in the boxes and are apt to decay. Above that temperature the callus is too soft, and it takes too much care to get them used to the change of temperature at the time of planting.

Before the bench-grafts are planted in the nursery they should be carefully examined and assorted; the weak grafts should be set aside and planted together; the strong grafts should also be planted by themselves. The poor bench-grafts should be discarded. This helps us in the care of the nursery, an uneven stand in the checks being always an objection.

The usual care should be given in planting and cultivating the

nursery. About the first of July we can begin to uncover the scions, cut off the roots, and leave the grafts exposed instead of covering them up again as we do in the other methods. It is good to give an irrigation two or three days before uncovering the grafts.

This method has given splendid results at the Moët & Chandon Experiment Station in France, where it was devised. Over 1,500,000 bench-grafts were made as a test last year; the returns in the fall of the year were 56 per cent for the grafts on *Riparia* and 54 per cent for the grafts on *Rupestris du Lot*. When we consider that the growing season in that district of France is short, being nearly at the limit of the northern vineyard section, and that the ordinary method of bench-grafting had been considered as impracticable, this result is highly satisfactory. With our better soils, better irrigation facilities, and longer growing season, we ought to get from 20 to 25 per cent more grafts. If we can thus count upon 75 per cent of our bench-grafts, it will encourage the vineyardists to plant on resistant stock, as it will nearly cut in two the cost of good grafted cuttings. This would be still more the case if the vineyardist should raise his own resistant stocks and thus bring their price to what it ought to be—a couple of dollars a thousand.

The Agricultural Experiment Station at Berkeley is going to carry on in the spring an extensive experiment in bench-grafting to test these different methods. This experiment will be made on a practical commercial scale; about 25,000 bench-grafts will be made. We have found some new improvements to the hot-room method that may give us still better results.

I hope that we will be able to encourage planting on resistant stocks wherever there is danger of being attacked by phylloxera; until this is done the planting of vineyards in those districts will be a speculation and not a safe investment.

FRIENDLY INSECTS.

BY ALEXANDER CRAW, OF SAN FRANCISCO,
Deputy State Horticultural Commissioner.

When Californians first suggested the idea of controlling the injurious insect pests of our orchards by the aid of beneficial or friendly insects, some of the prominent entomologists of the country ridiculed the proposition and one even advanced the statement that few pests meant few parasites. Certainly if there were only few injurious insects, they could hardly be considered pests, and few parasites would be required to keep them in subjection. It is now a well-recognized fact that injurious insects are those which have no parasites to keep in check their excessive increase.

Insects which live at the expense of growing plants, trees, or fruits

must be considered injurious, and the greater their numbers the more destructive will their presence be to the trees attacked. Some injurious insects are more or less restricted in their food habits or tastes; again, others attack a great variety of plant life, and on this account are difficult to control by artificial methods such as poisons, sprays, or fumigation. In the great majority of cases the latter method is the most effective, as it is far reaching and deadly, if sufficient chemicals of the proper strength are used and the tents or fumigating rooms are gas tight. Fumigation is a California invention forced upon us by the imperfect results from spraying—even by experts—owing to the impossibility of reaching every part of an orange tree with its dense, evergreen foliage. Even fumigation with hydrocyanic acid gas in recent years has not been entirely satisfactory, possibly because of inferior grades of cyanide of potassium or defects in the tents. The orchardists themselves are probably to blame in a great measure, for they have demanded lower prices for the chemicals and given the contracts for the work to the lowest bidders, and thereby produced a state of affairs that has led to economizing both in materials used and in time spent in the work.

Artificial methods have in no instance exterminated or even prevented the spread of insect pests when once established in a district. Of course, their too rapid increase and spread have been checked to greater or less extent by such remedies, and it would be the height of folly to await the advent or introduction of a parasite or beneficial insect to destroy a pest when it can be destroyed in great numbers by either spraying or fumigation. Extermination is out of the question with either method; the work has to be repeated at least once a year, and in the case of certain insects, from two to six sprayings are necessary in order to save the crop (as with apples and pears) from destruction by the codling-moth. No member of the late Board of Horticulture, or the Commissioner of Horticulture, or any one connected with his department, has ever advocated the *laissez faire*, or "let alone policy," with respect to the control of injurious insects for which we have no parasite or predaceous insect enemy. On the contrary, this department has issued numerous bulletins giving directions in the methods of spraying and fumigating orchards. Californians do not believe in the "let alone policy" or "wait for something to turn up" and destroy the destructive insect pests that were introduced into the State during the years we had the open door for everything in the tree or plant line with accompanying insects, not in myriads, but a few scattering scales or clusters of insect eggs. Once introduced and established, without their natural checks, man's wisdom has proved puerile in his efforts to exterminate such pests or even prevent their spread. It was only after very heavy loss and expensive experience that we determined to try

nature's method and introduce the insects that keep such pests under control in their native country.

It has been claimed that the same insects have always been in existence and the same fruits have been cultivated in the Old World for centuries, and that therefore we have no reason to become alarmed; but in those countries the orchardists were content to propagate and grow the same varieties which their grandfathers grew, and there was little danger of introducing new pests. In the newer portions of the world where fruit-growing has assumed the commercial importance that it has in the United States, and especially in California, the balance of nature has been upset and we are paying for our ignorance of her laws. The pioneer orchards—I now refer to those planted before 1849—were mostly grown from seedling trees or propagated from locally-grown trees and were free from pests. The orange and lemon trees were bright and free from smut. The bright and thrifty condition of the trees induced our pioneers of the fifties and sixties to bring or send for new varieties. The "soft brown scale" (*Lecanium hesperidum*) was introduced into the orchards and gardens of Los Angeles, and spread with alarming rapidity. Orange trees were killed by that scale and orange-planting was stopped. Years passed, and the parasites of this scale were unintentionally introduced upon other plants, and now this scale is not classed as a pest, unless where the constant presence of ants prevents the parasites from accomplishing their destruction. The parasites of this scale are both chalcid flies. One, *Coccophagus lecanii*, is parasitic of the small scales, and the other, *Encyrtus flavus*, attacks the full-grown scale. The former deposits but one egg in each scale, and the *Encyrtus* from one to eight, and each egg develops into a maggot and then into a perfect fly—all under the scale, so you can understand they are exceedingly small insects, each with four wings, six legs, and two antennæ. The orange-growers overlooked such diminutive insects, and their valuable work was ascribed to some mysterious disease, or as several growers stated, "the scales had run their course and were naturally dying out."

The next serious scale that was introduced was the "black scale" (*Lecanium oleæ*). This is a more general feeder, and besides olive trees it also attacks the orange, lemon, lime, plum, peach, apricot, pepper, oleander, cratægus, pittosporum, abutilon, pelargonium, photinia, and a variety of wild shrubs and weeds. We have a native internal parasite, *Tomocera californica*, that in some seasons destroys from 25 to 75 per cent, but as each scale produces from 1,500 to 2,500 eggs, it will be readily seen that this parasite alone could not cope with such a pest, as it has but one generation each year. Another internal parasite is *Aphelinus mytilaspidis*, a more slender species but not so prolific. The "black ladybird" (*Rhizobius ventralis*) was introduced from Australia

by Mr. Albert Koebele, when collecting beneficial insects for the State Board of Horticulture of California. Twenty of these valuable beetles reached us alive, and they have been of great service in cleaning out the black scale in the coast regions. In the southwestern portion of Alameda County, William Barry, Horticultural Commissioner for that part of the county, made a canvass of the orchardists in Washington township having five acres and over, and learned that since the introduction of this beneficial insect nine years ago, they have saved over \$171,000 for disinfection. The *Rhizobius ventralis* breeds the year around, and destroys the eggs, larvæ, and adult "black scale." Unfortunately they do not appear to thrive away from the sea breeze. At Ellwood, in Santa Barbara County, Mr. Cooper before the introduction of this ladybird spent from \$3,000 to \$5,000 per annum in spraying his orchards with kerosene emulsion. Since then he has relied upon the ladybirds, and his trees bear better and cleaner olives. We have a new internal parasitic fly, *Scutellista cyanea*, to which I will refer more fully later on in this paper.

The next serious pest introduced was the "cottony cushion scale" (*Icerya purchasi*). This came on trees brought into Menlo Park from Australia in 1868; in the eighties it had spread over a great portion of the State, and it was such a destructive insect that the orange industry was threatened. Two years after it attacked the Shorb groves at San Gabriel, it reduced the crop from fifty carloads per annum to six cars of inferior oranges on that estate alone. The expensive fight made against this pest in California with sprays, fumigation, etc., did more than any other one thing to advance the study of economic entomology and was the cause of our belief that, where the scale was a native, nature had a more efficient and cheaper remedy than our artificial appliances. Once started in this direction, our orchardists held meetings, in Los Angeles especially, and discussed ways and means to have an expert sent to Australia to make a search for the parasite that prevented the great increase of that scale in Australia and to introduce it into California. A Californian, the late Frank McCoppin of San Francisco, was appointed United States Commissioner to the World's Fair in Melbourne in 1888, and generously put aside \$2,000 of the funds allowed him for his expenses to defray the cost of an expert entomologist to be attached to his retinue. Mr. Albert Koebele of Alameda, an attaché of the Department of Agriculture of the United States, was selected, and he discovered and sent us the *Vedalia cardinalis*, a ladybird that was hardly known by the entomologists of its native country. Since then the State Board of Horticulture has taken the precaution to keep a stock of this valuable ladybird under artificial propagation, or rather their propagation in confinement in the San Francisco office. In this way we can generally furnish colonies promptly upon applica-

tion of our orchardists. Colonies have also been sent to Cape Colony, South Africa, Egypt, Portugal, Mexico, Hawaiian Islands, Society Islands, and Florida. When sending colonies of *Vedalia*, within the State, we request the applicants to send us, at our expense, a box of scale-infested twigs. In this way we secure food for our colonies in our breeding jars. Besides the *Vedalia*, we have three other Australian ladybirds that prey upon this scale alone, viz: *Novius koebelei*, *Novius bellus*, and "black *Vedalia*." We have also two internal parasitic flies, *Lestophonus iceryæ* and *Ophelosa crawfordi*. With such a list of active workers you can readily understand that the "cottony cushion scale" has a hard struggle for existence in California.

Another foreign pest that has done serious injury to orange and lemon groves is the "yellow scale" (*Aspidiotus citrinus*). The late L. J. Rose, of San Gabriel, purchased a small Japanese orange tree and planted it on his Sunny Slope estate. The existence of scale was overlooked at the time. The scale spread to other orange trees in the vicinity, and soon after the celebrated avenue of four rows of grand old orange trees appeared to be hopelessly ruined. Mr. Rose ordered the trees cut back to the trunks and the latter scrubbed with soap solution, but even such heroic measures failed to check the spread of the pest, for as soon as the trees again sprouted, the leaves were found to be again infested. This was in the early seventies. The effect of this scale was to cause the leaves to turn yellow and drop and thus injure the health and productiveness of the trees. In 1889 I called the attention of the orchardists to the existence of an almost microscopic internal parasitic fly, *Aspidiotophagus citrinus*, that was reducing this scale at Sierra Madre, and advised that no spraying or fumigation should be done in that neighborhood. Colonies were sent to other infested districts, and now it is rather a rare scale in the seven southern counties. The Horticultural Commissioners of Los Angeles, San Bernardino, and even Riverside allow the parasite to fight it out, and it is most efficient. This parasite, like the scale, is a native of Japan.

You all remember the hard-fought battle that was waged against the so-called "San José scale" (*Aspidiotus perniciosus*). Although it has a local name, it is nevertheless of foreign origin, and according to Prof. C. L. Marlatt it is a native of China. The late James Lick, of San José, was a great lover of and experimenter with trees and plants from other countries, and it is claimed that this scale was first observed in his orchard. The "San José scale" is not plentiful now in California, owing to an internal parasite, *Aphelinus fuscipennis*, assisted by the "twice-stabbed ladybird" (*Chilocorus bivulnerus*) and *Rhizobius too-woombæ*. Prof. W. G. Johnson records having bred 1,478 internal parasites, *Aphelinus fuscipennis*, in Maryland from a four-inch peach shoot that was seriously infested with "San José scale." As each parasite

destroys the scale it attacks before the scale reproduces, it can not long remain in injurious numbers.

The "brown apricot scale" (*Lecanium armeniacum*) was a very filthy pest on prune, apricot, peach, and plum trees, owing to the great amount of honey dew exuded by the insects. The leaves and fruit were consequently badly attacked by black smut. Since its parasite, *Comys fusca*, became established in infested orchards, it is not so troublesome. It takes two years to thoroughly stock an orchard when 90 to 98 per cent of the scales are killed by its parasite. There is but one generation of this scale and its parasite, so its work is not as effective or expeditious as other internal parasites, still it is a valuable enemy of this scale. We send out colonies of this parasite during the end of May and early in June.

Twenty years ago, the large green "katydid" did much damage to the blossom twigs of orange trees in the southern counties. It is very rare now, owing to a very interesting parasite that attacks its eggs. This parasite, *Eupelmus mirabilis*, lays but a single egg in each katydid egg. The latter is very flat, and the mature parasite has the same character of body. If the katydid eggs are perfect they assume a convex shape just before hatching, but if they are parasitized they remain flat, and the parasite in issuing cuts a small round hole through the upper side of its host. The katydids are large and voracious feeders and would be destructive pests were it not for the work of our friendly *Eupelmus*.

Numerous other friendly insects could be mentioned, but a brief review of what has been accomplished by the South African parasite of the "black scale," *Scutellista cyanea*, will be interesting. This parasite was introduced through the kindness of Prof. Charles P. Lounsbury, Government Entomologist of Cape Colony, two years ago. Several colonies were sent by Professor Lounsbury to Mr. E. M. Ehrhorn, Horticultural Commissioner and Entomologist of Santa Clara County. He bred a colony in confinement, but did not succeed in establishing them out of doors. On October 1, 1901, Professor Lounsbury wrote me that he would send me, on the following day, two boxes containing parasites. The packages took thirty days to reach us, and we bred seventeen *Scutellista cyanea* and a few secondary parasites; the latter we destroyed. Only four of the true parasites were females, and unfortunately one of those was killed by a small spider, leaving but three with which to stock the State. On February 7, 1902, the *Scutellista* began to issue from the scales, and the descendants of those three have increased to millions and wonderful work has been accomplished by them in this short time. During July I made an extended tour of the southern counties, and reported my observations of the work of the *Scutellista* to State Commissioner of Horticulture Cooper. Since then we have had most encouraging reports

from County Horticultural Commissioners, orchardists, and others, showing that the good work still continues.

In a letter from Horticultural Commissioner J. W. Jeffrey, of Los Angeles, under date of September 24th, he writes: "This part of the commonwealth is being overrun by the *Scutellista cyanea*. For a while we got all our supplies from the pepper trees at Pasadena, but to-day we have transferred our base to the sunflowers of Hollywood. You remember examining the grove of Mr. Harrington at Hollywood and that you did not find any evidence of the fly. Mr. Harrington has just come in with a lot of sunflower stalks literally alive with black scale. It is almost impossible to find a scale that has not been parasitized. On our tables the grubs are rolling around in great profusion. We never before had the multitude of grubs that are found on this lot of stalks. You sent Mr. Payne, of Monrovia, a lot of *Scutellista* last February, and Mr. Strong was out there last week to examine the trees and found the flies circulating among the branches all over Monrovia. The telephone company had been cutting into the tops of the trees with their usual liberality, and the thrifty farmers were hauling away every vestige of the cuttings and placing them in their orchards, and so the story goes. Hoping the good work may continue until the last insect foe has expired and that the black scale is now doomed."

Under date of September 12, 1903, Mr. W. E. Hughes, of Los Angeles, sent the following: "I write to report to you the encouraging work done by the *Scutellista* in my orchard and elsewhere. They seem to be in the orchard by the millions. I have sent them in almost every direction. These, with the ones sent out by the County Board of Horticulture, as well as those sent from your office, ought to put this section of California in pretty good shape next season." Mr. Hughes cites the good work done in the extensive orange and lemon groves of Mr. A. B. and A. Scott Chapman of San Gabriel.

Mr. F. Austin, Horticultural Commissioner of Escondido, San Diego County, and Dr. W. B. Wall, of Santa Ana, Orange County, have been especially successful with this parasite.

I have referred to some of our friendly insects in previous papers, and the only excuse I now give for taking up your valuable time is because of a remark, or question, asked by one of our best entomologists some time ago at a meeting of fruit-growers and farmers. The question was in substance: "Do you know of any benefit derived from beneficial insects outside of the *Vedalia cardinalis*?" Evidently the fruit-growers present at that meeting had forgotten some of their past experiences with fruit-tree pests, for no response was made. State Commissioner of Horticulture Ellwood Cooper is still making determined efforts to introduce other friendly insects that will be of incalculable value to the fruit-growers of California.

INSECTS OF THE YEAR.

BY EDWARD M. EHRHORN, OF MOUNTAIN VIEW,
Entomologist of Santa Clara County.

To make an annual record of the presence or absence of injurious insects seems to have become an important matter among entomologists, generally speaking. Here in California this has not received as much attention as our various horticultural industries warrant, and may be this is caused by the greater task of collecting data in so great a territory as the State of California. My attempt to-day is to give you a list of the insects of the year as far as it has been possible to collect data from the various counties, and I hope that in the future, by co-operation with others interested in this line, we shall be able to make a complete record of all injurious insects, and it may be well to also make a record of our friends, the predaceous and parasitic insects existing in our State.

Aphids, or Plant Lice.—The present season has been characterized by the abundance of plant lice in every locality. This abundance can probably be attributed to the cool spring and summer months. In the apple districts, the woolly aphis (*Schizoneura lanigera*) was present in greater numbers, despite the fact that our common ladybirds were plentiful. Prune aphis (*Aphis prunifoliae*), especially on young trees, was reported from a great many localities. The black aphis of the peach (*Mysus persicae niger*) has been reported as numerous and doing damage. This is a dangerous pest, and every effort should be made to exterminate it. The root form could possibly be attacked during the winter months, and tobacco or other insecticides may prove valuable. Although, generally speaking, no serious damage has been reported on account of other species of this multiplying group, yet the abundance of honey dew, with dirty, discolored foliage in autumn, has caused much inquiry from nearly every quarter.

Shade trees have not been exempt. The elm tree cockscomb gall louse (*Colopha ulmicola*), the brown willow louse (*Lachmus* sp.), the poplar louse (*Pemphigus* sp.), and the fir tree louse (*Chermes pinifoliae*) have been very numerous, and in places some of these species have covered the walks and roads with honey dew to such an extent as to give them the appearance of oiled roads.

The grape louse (*Phylloxera vastatrix*) is slowly encroaching upon the vineyards, and some of the resistant stocks are proving to be not as resistant to the attacks of this insect as at first announced.

Scale Insects.—Generally speaking, there has been a little increase in the apricot scale (*Lecanium armeniacum*, Craw). In nearly every case, where samples accompanied the inquiry, indications were found of the

presence of *Comys fusca*, parasite of the scale. From 20 to 75 per cent of the scales were invariably found parasitized. The increase of this scale may be attributed to the cold, damp spring months, which would have no influence on the scale, but would prove fatal to the delicate chalcid fly.

The black scale (*Lecanium oleæ*) in deciduous orchards is on the decrease, partly due to the work of *Rhizobius ventralis* and *Tomocera californica*, both enemies of this scale. In nearly every orchard can be found quantities of these parasites. The African parasite, *Scutellista cyanea*, can be found in good numbers here and there, especially in localities where more or less orange, olive, and other evergreen shrubbery exists adjacent to the deciduous trees. It will be a greater task to keep this parasite in the deciduous orchards, owing to the existence of but one yearly brood of scale. From the citrus districts come encouraging reports of the good work the African parasite is doing in eradicating this pest.

Among the armored scales, those that lie loosely beneath a true scale, we find the greedy scale (*Aspidiotus rapax*), red scale (*A. auranti*), pear diaspid (*Diaspidis pyricola*), and the purple scale (*Mytilaspis citricola*) the most numerous and the most destructive. The greedy scale can be found on all kinds of trees and shrubbery, and seems to thrive best where plenty of shade exists, which is very noticeable on umbrella trees with heavy tops. The red scale, according to reports, seems to be rather at a standstill, and in some localities it is claimed to be kept in check by the golden chalcid (*Aspidiotophagus citrinus*). The pear diaspid is present in a few sections only, but owing to its habit of getting under moss, lichens, and loose bark, it is a very difficult scale to combat, either by artificial means or by natural enemies. The purple scale is also found in a few districts and is being vigorously fought by fumigation and spraying. Other species, like *Aspidiotus citrinus* and *A. perniciosus*, are not numerous and are not considered dangerous, although reported from several localities at intervals. These species are kept in check by natural enemies, and the expense of fumigation and spraying is saved.

Codling-Moth (*Carpocapsa pomonella*).—As far as I can learn, this pest has been more abundant than usual this season. One cause for this I am certain is the neglect of the grower to gather up fallen wormy fruit. This pest should be easily controlled if, as reported, the experiments in Pajaro Valley successfully reduced the pest from 50 per cent loss to but 5 or 10 per cent loss. What we want is a parasite, and I understand that one has been found in Europe.

Cankerworms (*Alsophila pometaria*).—This pest was again present in numbers in several counties. The ill success with the paris green spray

does not seem to warrant its use. As usual, the reports from the use of this spray were conflicting, some growers reporting a total failure, while others claimed an entire success. Some report that a spray consisting of 1 pound of paris green to 25 gallons of water, with 20 pounds of lime, has killed the worms after a few days. I believe the cause of failure is mostly due to the drenching of trees instead of using a mist spray. I have examined sprayed orchards and have found but little poison on the leaves, generally along the lower edge of the leaf. It is no use spraying trees *à la* buggy-washing—better save money and time. Good results have been obtained by the mesh-wire trap when properly applied to the tree. Here again great care must be taken to see that the trap is correctly adjusted.

Cutworms.—Reports from all over the State regarding the appearance of and damage by cutworms, the larvæ of the owlet moths, have been received. In this case we may say that where there is plenty of food we find plenty of consumers, for this year produced enough food (weeds and grasses) to warrant the presence of myriads. When the natural food is suddenly destroyed (plowed under), new pastures are hunted by these crawlers and are generally found in succulent vegetables and tender foliage, and then the trouble begins.

Tent Caterpillars (Clisiocampa sp.).—Early in the season my attention was called to the vast amount of tent caterpillars which were attacking prune and apricot trees in the lower foothill regions. In many instances the larvæ stripped the trees of their foliage. Such work is no doubt the result of neglect. If the tents containing the caterpillars had been gathered the previous season, it would have checked the pest considerably.

Leaf Rollers.—Among this group we have a species of *Cacæcia* which was rather abundant and caused much alarm. It is a green caterpillar, with black head, and often is taken for a cankerworm, but its movements and habit of living in rolled-up leaves at once dispel this error.

Cabbage-Worms.—Although this pest has been reported again at intervals, we find that it is not as plentiful as in previous years; possibly the parasite (*Apanteles glomeratus*) is reducing it.

Oak-Tree Caterpillar (Phryganidea californica).—This has been a seasonal year for this pest, and a great deal of inquiry has been made and labor performed. Seasonal as this pest is and attacking mostly its natural food, the live oak, the damage is only temporary and local. Remedies in this case are hard to suggest, and spraying with poison is too expensive an undertaking.

Pear or Cherry Slug (Eriocampa cerasi).—This insect takes its name from the close resemblance of the larva to a slug. The larva destroys

the green surface of the leaf, often causing it to become skeletonized and drop, in this way defoliating the tree. This pest is generally found quite abundant every season, and was so found this season, attacking pear and cherry trees. The remedy generally used is road dust thrown into the trees; but better results are obtained by using air-slaked lime in its place, as it is finer and more astringent. Spraying with paris green can be successfully done, but again the trouble will be in the drenching of trees with little or no good results.

Diabrotica soror.—This pest is not as bad as in previous seasons, but occasionally appears in goodly numbers. Its appearance the past season has caused considerable correspondence. The bean crop seems to be the favorite food, although the young trees and squash vines in some localities help to entertain the feeder. This pest is becoming less, and this may be attributed to the work of its natural enemy, *Celatoria crawii*.

Peach Moth (Anarsia lineatella).—Several reports of damage by this pest have been received, and this is probably due to neglect on the grower's part, as it has been demonstrated that by good and faithful spraying at the right time this pest can be held in check. The lime, sulphur, and salt wash, or a good kerosene emulsion, is sure to give good results.

Peach-Root Borer (Sanninoidea opalescens).—The pest is confined to a few counties only, and is being reduced considerably by vigorous fighting. The prize for the best remedy for the pest, which has been offered by the Farmers' Club of San José, has induced many people to try remedies, and many are the materials and appliances put forth. One of the most promising I have noticed is crude oil of an asphalt base. This has been tried by Mr. D. B. Pickering of Santa Clara, with considerable success. He has been able to keep the borers out of the treated trees, and the digging-out is dispensed with, as the oil causes the borer to leave its burrow shortly after applying the oil to the trunk below the surface of the ground. This remedy was tried last season on an extensive scale, and so far no damage to the trees has been observed. It must, however, be borne in mind that great care must be exercised, and growers should experiment on a few trees the first year. The reason for this is that Mr. Pickering's experiments were carried on on adobe soil, a soil which is cold, so that nothing is known of the results to be had on soils which retain heat during part of the night.

Strawberry Borer (Aegeria impropria).—This pest has been reported from several localities, but no particular damage complained of. It is a very common pest and is easily controlled, but much depends upon the growers in destroying the old and infested plants which generally harbor the pest.

Corn-Ear Worm (Heliothis amiger).—This pest is reported every season, and yet there seems to be very little chance so far to fight it satisfactorily. It is supposed that the moth lays her eggs upon the silk of the corn and from there the young worm works its way into the top of the ear. Here is a good field for some investigator to undertake a thorough and interesting study, and no doubt future success in combating this pest will greatly depend upon such course.

Squash or Pumpkin Bug (Anasa tristis).—This insect is a great nuisance, so much so that in several districts the raising of the true field squash has been abandoned. Hand-picking the insects, after the young plants have several leaves, has reduced the pest, but this is only practicable on small acreage.

Thrips.—These minute insects have caused considerable trouble and damage to vegetation this season. Beans and other garden crops have suffered much, and citrus trees have also been attacked.

Grasshoppers (Melanoplus devastator, et al.).—The grasshopper plague has not been so bad this year as last, although several large swarms were reported in Fresno, Kings, Tulare, San Diego, and Placer counties. The swarms did little damage as compared with last season.

Currant Fruit-Fly.—During the last few years this insect has been recorded as doing damage to currants in the State, and again inquiry regarding it came to our notice this season. In the Eastern States, this pest, or its cousin, causes much damage to currants and gooseberries, and it should be closely watched here and prevented from spreading. It would be better to gather one crop for the furnace before the larvæ drop out of the berries and thus check the pest, than to continue producing infested fruit every year.

Mites and Red Spider.—Under this head we include the red spider, yellow mite, orange mite, walnut mite, and pear-leaf phytoptus. All these species have been rather more numerous this season and a great deal of alarm has been felt. It was hoped that the cool spring months would have checked these pests, as they are an ever annoying class. Only persistent fighting will accomplish good results.

SCALE INSECTS.

By PROF. A. J. COOK, OF CLAREMONT.

We can not know too much, or too definitely or too accurately, all the details of that which most affects our business. This is my excuse for bringing before you this oft discussed topic.

The life history of all scale insects is much the same, and in brief is as follows: The young are hatched from eggs beneath the mother scale in oviporous species, as illustrated in the common black scale; or born

alive (that is, the eggs hatch within the parent scale), as in the San José scale. In all cases the young scale insects—usually yellow, oval in form, very minute, a mere speck—move about, may crawl upon foot of bird or insect and be borne to other plant or tree, or mayhap are carried by wind to other pastures. Soon they insert their long beaks into leaf or tender twig and commence vigorously to pump the sap or life from the host plant. Thus they seem to be permanently anchored (though they will be seen to move if the leaf or twig dries up), even until well grown. Soon after anchorage, they secrete the well-known honey dew, which attracts a black fungus, and we are vexed by the appearance of the black smut on our oranges or lemons. This nectar also attracts bees, wasps, and ants, which repel insectivorous birds, and thus the young scale insects are protected. Usually, in less than a year, often much less, they become full grown, have lost their legs and antennæ, and now the eggs again appear, either under the scale or within the mother insect.

There are three distinct types of coccids or scale insects. The first type are those which always move freely from the time of hatching until full maturity. The mealy bugs and cottony cushion scale are examples. In the second group, the scale is the insect, and it moves little, if any, after it once settles to work. These are often referred to as the unarmored scale. The black and apricot scales are examples. Here, when we touch the scale, we touch the insect. The third division is armored; that is, each insect is protected by a scale, separate and distinct from the insect. This covering consists of the first two molts, or cast-off skin, which form the little nipple-like projection of the scale, and a border of fibrous secretion which completes the scale. Here, we do not touch the insect when we touch the scale. We must raise the scale to find the insect, which is just beneath it. The red scale and San José scale are illustrations of this group. It goes without saying that the armored scale, protected as it is, may be more difficult to kill than are the others, although all are very tenacious of life. It is a curious fact that the males of all the coccids are unique among insects. At first, they are scale-like, similar to the females, although the form and size of the male generally differ from that of the other sex. At last they come forth with wings, but have only a single pair. The males are usually much less common than are the females. In some species, the males seem to be largely wanting.

Injurious Species.—Of the first group, I am familiar with the following California species: Mealy bugs, which infest the citrus orchards; the cottony cushion scale, which attacks not only the orange and lemon, but also many other trees and plants; the maple *Pulvinaria*, which infests grapes and apple trees. Of the second group, we have the black scale, the soft brown scale, the hemispherical scale, and the *Coccus*

longulus of our citrus trees, and the apricot and prune scale of our deciduous orchards. Of the third division we have the red scale, the yellow scale, San José scale, the small round white scale (often referred to as the lemon-peel scale), the greedy scale, the purple scale, and the narrow, slim rose scale. All these species are serious checks to the vigor of the plants which they infest, and all would call for great expense of time and money to stay their havoc, except that in several cases their natural enemies become our effective abettors.

I wish to impress upon you two facts in the life history of scale insects that are of practical import in our battle with these pests. The ovoviviparous species, in which group the young are born alive, are hatching all the season through in our genial California climate, and thus we find scale of all ages at any time. Even the oviparous species, like the black scale and the purple scale, are wont, in our warmer seasons, to anticipate the usual hatching time, and thus want of uniformity is not rare in the hatching of these egg-laying coccids. The fact that the older scale insects are very difficult to kill by any known method makes this a matter of great moment in our practical work in this contest. Thus with many scale insects always, and with almost any species at times, two applications of an insecticide within a few weeks are absolutely requisite to complete success. This fact must be faced in planning our orchard economics.

Again, the armored scale pests are protected by their coat of mail and so are less easy to successfully combat than are the others. This matter should not be lost sight of as we consider the scale pests and plan for their overthrow.

Natural Enemies.—No one who has not studied scale insects in the field can have any adequate conception of the value and importance of our insect friends. Many which would be our most formidable foes are wholly kept under by these Lilliputian friends. The greedy scale, the lemon-peel scale, the yellow scale, the apricot scale, the soft brown scale, the prune scale, and most important, the cottony cushion scale, have all lost their terror because of their insect enemies. Surely, we little appreciate our debt of gratitude to this great host of efficient insect friends.

Insects, like fish, form the rich, coveted menu of a great army of life forms. So insects, like fish, are enormously prolific. They must reproduce sufficiently to feed millions, and yet provide for the continuance of their own species. This very fact of redundant egg-laying would be quick proof to any naturalist that natural enemies in the native habitat of any such animal were legion. Our scale pests are striking examples. My students have counted over four thousand eggs under one prune scale and over three thousand under one black scale. The ovoviviparous species are a close second in this enormous fecundity.

Our first law, then: Insects of extreme prolificness must have myriad enemies in their native home; else they would soon multiply to the entire destruction of such plants or animals as supply their daily food, and they would in this very habit commit race suicide.

Again, almost all noxious insects in California are introduced species. They are often—usually—introduced without their specific enemies. Thus their new home and life are a perpetual and veritable picnic. All undisturbed, they yet retain their tremendous fecundity and they sow ruin with a broad, free hand. Our second law, announced by Darwin, fifty years ago: Introduced species always forge to the top. The conclusion is inevitable. In case of any serious pest, like the black scale, we should seek out its nativity and go at once for its specific enemy. This has already served us in our *Vedalia*, *Rhizobius*, *Chilocorus*, and *Scutellista*. The *Vedalia* already looks after the ruinous cottony cushion scale. The *Rhizobii* are fast getting their bearings and are promising to eradicate the black and purple scales. The *Scutellista* seems to keenly relish the task of sweeping the black scale from our citrus groves, and we may hope splendid things from the newly introduced *Chilocorus similis* from northern China, the native home of the San José scale. Here comes quickly a suggestion which we should have acted on years ago: We should keep a bright, energetic, competent young entomologist in the field all the time to do just this important work. He will seek out the nativity of all our insect pests. Then he will hasten to the place and secure for importation the specific parasites which will, in their new home, as well as in their old, hold them in a state of "innocuous desuetude." I wonder that, with the startling success which crowned California's first experience in this then wholly novel enterprise, she has been so full of apathy since. I believe we should make all haste to redeem the time and appoint without further delay the right man and hold him exclusively to this promising work. The cottony cushion scale menaced our entire citrus industry. The *Vedalia*, upon introduction, at once put a stop to the scale's depredations. The *Scutellista* bids fair to repeat the experience with the black scale. If it does it will save thousands and thousands of dollars to our orchardists.

Artificial Remedies.—Spraying was the first means employed to stay scale ravages. Kerosene emulsion and the resin wash were used with some success. The lime, salt, and sulphur wash in the deciduous orchards was used on leafless trees in winter. This lessened its cost and made the application easy, and it still holds a place among our cherished insecticides. In the citrus orchards, with their dense foliage, it was difficult to reach all the insects with a spray, and the foliage and fruit were likely to be injured. Partial or complete failure and injury together uttered a double protest of un wisdom, and both kerosene emul-

sion (often imperfect) and resin wash were almost absolutely abandoned.

The cyanide process next came forward. This, rightly used, was surely thorough, as the gas went everywhere. Fumigation was long in highest esteem because of its efficiency. It is true beyond contradiction that fumigation, properly performed, will kill all scale insects that are not too far advanced toward maturity, and that, too, without injury to the trees or fruit. It is equally certain that it does not kill old or mature scale, nor does it destroy the eggs. If, then, we could be sure of a uniform hatch so that all the scale would be young when treated, this method would surely retain its popularity. But in late years, we have not had this uniform hatch. Young and old scale alike were in evidence in every month of the year. We see, then, that two fumigations were required for extirpation, and the cost of two fumigations is prohibitive.

The points rightly urged against fumigation are: Cost; virtual failure in case of want of uniformity in time of hatching; the necessity of doing it at night, when the owner finds it difficult to give the work personal supervision; the fact that it must be done by uninterested parties, who will rarely exercise the caution requisite to success. The fact that, in late years, the failures have almost equaled the successes proves that the above points are well taken.

In case fumigation is employed, enough cyanide must be used to burn slightly the tender twigs. If this is done, and the insects have hatched uniformly and are fumigated when all are young, we may surely expect a very complete extirpation, and may surely expect not to need to fumigate again for the next three years. If the work is done by contract, the orchardist should stipulate that enough cyanide be used to slightly injure the tender twigs and yet that no serious injury shall be done to either tree or fruit. The carrying out of this contract must precede any payment for work. The orchardist must also see to it that fumigation is done when the insects are of a suitable age and that the orchard is in the best condition of thrift. I think it is certain that with as uniform a hatch as we have had this past season, in many parts of southern California, fumigation, conducted as suggested above, will be very effective and the cost not prohibitive. The fact, however, that in late years the time of hatching has been so varied, has proved fumigation very uncertain, and many of our best orchardists have lost confidence in it and have cast about for a better method.

We have seen that spraying with resin wash and kerosene emulsion has been abandoned for years in our citrus groves. About three years ago the distillate emulsion became quite popular. It was found more effective than kerosene emulsion, but was soon abandoned because of serious spotting of the fruit. About two years ago, the Stearns brothers

substituted a distillate spray for the emulsion. They used a specially prepared distillate at a strength of two per cent in the orange groves, and of three per cent in the lemon orchards. This was applied as a mechanical mixture, the machine mixing it thoroughly by violently agitating it in the tank. The plant costs about \$400. A distillate engine mounted on the wagon furnishes the power and also works the mixer. A long rubber hose conducts the spray to the nozzle, and two or four of these may be used, and so two or four trees sprayed at a time. Two good men can use six or seven 100-gallon tanks a day, and do good, thorough work. The wagon is drawn by horses which require no driver and move on at the word of the sprayers. The spray does no harm to tree or fruit if the orchard is in good condition and the distillate of approved quality and the mixture of the right strength. It is effective upon all young scale which it touches. It may touch nearly all or every leaf if the sprayers are sufficiently intent and cautious. I think I have seen as efficient work from spraying as I have ever seen from any method. The cost is about one third that of fumigation, while the spray kills older scale and many eggs which fumigation fails to injure. The spray also kills all red mites that it touches, and many of the mite eggs. These mites are now serious pests in many citrus orchards and are wholly unharmed by fumigation. We see, then, that distillate spray has very much in its favor and we are not surprised at its rapidly gaining popularity. That it has come to stay and will claim the field seems now more than probability. But spraying must be thoroughly done, more thoroughly than the mere hired man will usually do it. The sprayer's mind must be on his business every minute of the time. Thus, economy in the work, as well as thoroughness, will demand that the orchardists of each neighborhood own their own machine, and supervise, or better do, the work. Then it will likely be rightly done, and done at the right time and at the minimum cost. Unless our insect friends relieve us of this perpetual fight, this last method seems a solution of the problem of scale warfare.

A late bulletin (No. 88) prepared by Mrs. M. E. Fernald, of the Hatch Experiment Station of the Massachusetts Agricultural College, has furnished us the correct names of all the coccids of the world. This valuable work has been most carefully done, and richly merits the meed of admiration and appreciation which it will surely receive from us all. I append the correct names of the insects which interest us, giving in parenthesis the names previously used:

- Mealy Bug—*Ceroputo* (*Pseudococcus*) *Yuccæ*, Coq.
- Cottony Cushion Scale—*Icerya purchasi*, Mask.
- Maple Pulvinaria—*Pulvinaria innumerabilis*, Rath.
- Black Scale—*Saissetia* (*Lecanium*) *oleæ*, Bern.
- Soft Brown Scale—*Coccus* (*Lecanium*) *hesperidum*, Linn.
- Hemispherical Scale—*Saissetia* (*Lecanium*) *hemispherica*, Targ.
- Coccus longulus*—*Coccus* (*Lecanium*) *longulus*, Dougl.

- Apricot Scale—*Eulecanium (Lecanium) armeniacum*, Craw.
 Frosted Scale }
 Prune Scale } *Eulecanium (Lecanium) prunosum*, Coq.
 Red Scale—*Chrysomphalus (Aspidiotus) aurantii*, Mask.
 Yellow Scale—*Chrysomphalus (Aspidiotus) aurantii citrinus*, Coq.
 San José Scale—*Aspidiotus perniciosus*, Comst.
 Oleander Scale }
 Lemon-Peel Scale } *Aspidiotus hederæ (nerii)*, Sall.
 Greedy Scale—*Aspidiotus rapax*, Comst.
 Purple Scale—*Lepidosaphes (Aspidiotus) beckii (citricola)*, Newm.
 Glover's Scale—*Lepidosaphes (Aspidiotus) gloverii*, Pack.
 Rose Scale—*Aulacaspis (Diaspis) rosæ*, Bouché.

NEW OBSERVATIONS ON THE CODLING-MOTH.

By PROF. C. W. WOODWORTH, OF BERKELEY.

During the past summer quite extensive operations have been under way in the Pajaro Valley for the control of the codling-moth. These activities were brought about by the action of the Pajaro Valley Orchard Association, which obtained from the Supervisors of Santa Cruz and Monterey counties an appropriation amounting to \$2,500; Santa Cruz County subsequently made a second appropriation of \$250, and these amounts were supplemented by the further sum of \$175 subscribed by individual orchardists. This money was placed under the control of the Experiment Station to pay the expenses of conducting an exhaustive study of this insect. The desire was expressed that this work should include a careful testing of all the various means that have been suggested for the control of this insect, and in order that this might be done on a large scale many of the growers about Watsonville placed the spraying operations of their orchards under the control of the investigation. Our purpose was to so arrange the work that we could give quite definite directions for the control of the insects another season. At the same time it was desired to accomplish as much as possible during the current season in the control of the pest, without, however, sacrificing the experimental work.

The work was under the immediate control of my first assistant, Mr. Clarke, and several advanced students from the Entomological Department also rendered valuable aid. The mass of data accumulated as a result of this work is too large to present at this time, but will be given in detail in bulletins to be issued by the Experiment Station. I will only attempt to detail a few observations upon this insect which are among the more important additions to our knowledge of the habits of the insect. No insect has been studied more extensively and exhaustively than the codling-moth, but it appears that we are still far from knowing the insect as intimately as would be desired. One point in its life history which remained for a long time entirely unknown, was the

egg-laying habits of the moth. The commonest conception, and the one which is still found in many of the books on entomology, was that the egg was laid at the blossom end of the apple at about the blooming time, but curiously enough this statement was made without a particle of actual observation to support it. I need not go into the detail of the steps in the discovery of the egg-laying habits and the changes made necessary in the theories regarding the reason for the effectiveness of spraying with arsenicals.

In the Pajaro Valley this season the moths did not begin to emerge in numbers until the fruit was of considerable size, and early in the season the eggs were not laid upon the fruit at all. It has been known for some time that many codling-moth eggs are found upon the leaves as well as the fruit, but no observations previous to those of the present year appear to have been made early in the season. The egg, as many of you are aware, is a flat disk, about the size of a pin-head, which is cemented fast to the surface of the leaf or fruit, and is so transparent that the green color shows through and renders it very difficult to see one except when looking in the right way. Being cemented to the plant it will be evident that only the smooth surfaces of the leaf or fruit would be suitable for this purpose. Indeed, it was extremely rare to find eggs anywhere except upon a smooth surface. Now, early in the season when the first eggs are being laid the whole surface of the apples and young leaves is covered with downy hairs. A few of the older leaves soon become smooth on the upper surface, and it is here that the first eggs are laid. These old leaves may be, perhaps usually are, far away from the fruit, but the most careful search of the surface of the fruit and of the young leaves failed at this time to show any trace of the eggs. Later, but still during the time of the hatching of the winter brood of moths, the under side of the leaf becomes smooth, when eggs may be found beneath the leaves, as well as above them, though never as abundant as on the upper side. Finally, the fruit itself also becomes smooth, especially on the upper exposed side. As soon as this is the case the moths show a decided preference for the fruit, and while the eggs are still laid in considerable numbers on the leaves, the number on the fruit is out of all proportion to the amount of surface exposed. This preference is maintained throughout the year with the later broods, although the insects never cease to lay upon the leaves, but deposit perhaps a third of their eggs in such situations. The part of the apple last to become smooth is the hollow of the two ends, and it is the rarest thing to find eggs in these situations, even after they do become smooth. The commonest place to find the egg is upon the side most exposed, and they are laid here at random without regard to any peculiarity of the apple and sometimes in considerable numbers. Half a dozen eggs upon a single apple is no uncommon

thing where the moths are abundant; for instance, in the neighborhood of packing-houses.

As to the time of egg-laying, there seems to be a great difference according to the locality. In some places it is very evidently conditioned upon the weather. One may find, for instance, upon a tree, the majority of the eggs in about the same stage of development, indicating that they were laid probably the same day. Apparently this evident periodicity in the laying of the eggs is dependent upon the effect, upon the moth, of weather conditions. Every one has noted that some evenings insects will be extremely abundant about electric lights, and that possibly the very next night there will only be a stray insect here and there. It is supposable that the weather condition which affects the moths which we find about lights would also have an equally striking effect upon the activities of the codling-moth and that unfavorable weather would prevent the laying of eggs sometimes for days at a time. This at least seems to be the most feasible explanation of the practical immunity of one portion of the Pajaro Valley from ravages by the codling-moth. That portion of the valley between the city of Watsonville and the sea is apparently free from these insects. In some orchards the codling-moth has been introduced repeatedly upon fruit-boxes and has been observable in some cases the succeeding year, but the uniform testimony of the orchardists of that region is to the effect that this slight attack never lasts longer than a single season. One of the characteristic features of the climate of the Pajaro Valley are the fogs which float in from the ocean with the afternoon winds, causing a chill in the atmosphere at just the time of the day that the moth would ordinarily be active. And the region where the greatest evident periodicity in egg-laying was observed is immediately adjacent to the immune area. Apparently, in this area showing periodicity in egg-laying the conditions are such during most of the time that the moths are prevented from flying, but now and then there comes a day in which they can lay their eggs, so that these areas may be nearly as badly infested with worms as though the weather was favorable all the time.

We have in California two classes of localities free from the codling-moth: Those interior points, especially among the foothills, where young orchards are isolated from other orchards and which have not yet become infested with the codling-moth; and such areas as this part of the Pajaro Valley, where apparently the proximity of the sea produces a permanent immunity. Such permanent immune areas are found all along the coast from the northern end of this State southward, certainly at least to Santa Barbara County. Judging from the experience in the Pajaro Valley, orchards but a short distance inland from the perfectly immune area may be very seriously injured by this insect.

There have been very few observations of the hatching process, and I am not aware that there are any detailed published statements in regard to the process of entering the apple. This is a very important matter in the theory of control of the codling-moth. The usually accepted theory is that the worm must receive a poisonous dose before entering the fruit, or otherwise it is beyond the possibility of control. How the destruction of the worm might be brought about through arsenical spraying was first clearly expressed by Professor Slingerland of Cornell University, who emphasizes the necessity of putting the poison into the blossom cup, in order that the young insect upon hatching from the egg would find awaiting it, in the cup of the blossom end of the apple, a quantity of poison through which it must burrow in order to enter the fruit. Another idea was first brought out prominently by Professor Card, of Kansas, now of the Connecticut station. He observed that the young worm very often ate holes in the leaves before finding the fruit, and his idea, based upon this observation, was that the poison placed upon the leaf and outer surface of the fruit was quite important in the control of the insect, perhaps as much so as that in the blossom end. The observations made at Watsonville throw a new light upon this problem of the theory of the effectiveness of the spray. Contrary to the observations made upon this insect in Eastern and Northern regions, a very small percentage of the insects enter the fruit in the blossom end. Of those that might be classed as entering in this place the majority actually enter the fruit outside of the calyx lobes instead of going within the cup.

There were a few worms, however, that entered the blossom end and which could be killed by the application made according to the directions now most commonly given of placing the poison within the cup. According to our observations, the worms live quite a while within the cup before attempting to burrow into the fruit, and will often be found of considerable size and with an appreciable amount of excrement, showing that they have been eating the surface of the cup, and still no trace of a burrow. Apparently they have fed simply upon the surface of the fruit, and have found that the cavity between the calyx lobes offered sufficient concealment to satisfy them and have not, therefore, been forced to bury themselves to secure this protection. This habit of feeding on the surface within the blossom cup furnishes the best possible conditions for the efficiency of the sprays applied according to the accepted idea. The blossoming period in the Pajaro Valley, and probably in most parts of the State, extends over considerable time, so that the first fruit setting on the tree often becomes as large as one's thumb before the tree is out of bloom. Long before this, the cup is closed, so that if the poison is to be placed where it will accomplish this result there must be more than one application, and the first ap-

plication must be made while the tree is in full bloom. If delayed until after the majority of the petals have fallen, we have positively determined that in some cases no poison will be placed in any of the fruit, since in these cases none of the late blossoms produced apples.

Again, there seems to be very good evidence that many of the worms, often those hatching upon the surface of the fruit, may be killed without ever gaining entrance either to the blossom end or to any other portion of the fruit. We have never observed the actual feeding upon the leaves in the orchard by the freshly-hatched worms, but have repeatedly made such observations on worms hatched in the laboratory, and it was very evident that the ratio between the number of eggs and number of entrances was very appreciably larger upon unsprayed trees than upon sprayed trees, and the only explanation of this difference would seem to be that upon sprayed trees many of the worms would obtain the poison and die which would otherwise ultimately find an apple and enter the same.

By far the greater part of the worms enter the fruit away from the blossom end, and the process has been followed with great care, both in the laboratory and in the orchard. The commonest procedure after the worm emerges from the egg is to crawl about the surface of the fruit until finding a satisfactory spot and then to proceed to burrow itself beneath the skin of the apple without tasting a bite of the fruit, simply chipping it off with its jaws and using the particles to aid in forming a protection over the mouth of the burrow. The whole operation from the breaking of the egg shell until the entire disappearance of the insect ordinarily does not require more than fifteen or twenty minutes, and during the whole time the worm has evidently taken no food, so that it is very doubtful if any of the poison that might be upon the surface of the apple would cause the death of the worm.

As to the places selected for entrance, there seem to be two classes of localities selected. That which is evidently preferred by the worm is the point where two fruits touch, or where a leaf lies against the fruit. In the orchard the upper side of the fruit was very commonly chosen, generally in the most exposed point. This was apparently due to the difficulty experienced by the worm of walking over the surface of the fruit. Like most caterpillars, the codling-moth spins a small quantity of silk as it walks, and this aids materially in its progress by affording a foothold for the minute claws with which the feet are provided. These claws are so minute that the downy hairs of the young fruit seem to afford even less foothold than is obtained on the smooth surface. Repeatedly in our field observations a young, freshly-hatched worm would suddenly lose its hold entirely and fall from the tree. Doubtless a good many worms perish in this way. The front legs are best able to hold onto the plant, so that usually the body

would simply swing around and when the insect had regained its hold it would then climb upward. Thus an insect would sometimes start time and again to go around an apple and would be brought back to the upper side by slipping as just described, and finally would proceed to enter the apple on the upper side. A rough surface seems to be preferred to a smooth one, and blotches of lime and poison were certainly not avoided by the worms.

In our breeding-cage experiments which were conducted in a wax cell covered by a thin piece of glass the burrows were invariably made either under the edge of the wax ring, or at the point where the cover glass nearly touched the surface of the apple. In this latter case the worm could be observed under the microscope very satisfactorily. It would first make a silken carpet and then spin a series of threads connecting the glass to the apple, making a strong, but an almost invisible cell for itself, the silken threads being so delicate as to be seen only with the use of the microscope and the proper illumination. After accomplishing this preliminary work the worm would begin the process of excavating a hole for itself, the most difficult part of the operation seeming to be the first breaking of the skin, which would often require a great many attempts before the jaws would tear through into the softer tissues beneath. As soon as the first piece is removed from the surface of the apple the worm fastens it to the silken structure which it has erected about itself, and then another bite is pried off and added to the first, and this is repeated until quite a wall of apple chips has been built around the burrow. By this time the worm has made a hole pretty nearly as deep as its body, and finds it necessary to withdraw itself after each bite is obtained. The hole is not dug straight down into the apple, but somewhat obliquely and considerably larger than the diameter of the insect. It is soon, therefore, able to turn itself about within the burrow, and then only pushes its head out far enough to add to the chips already accumulated on the sides, and finally the mass entirely covers over the opening which it has made in the fruit. Up to this time, the worm has worked incessantly and the stomach has received none of the material removed from the apple. Shortly after the completion of the burrow, however, the digestive tract is seen to be well filled with chips of exactly the same character, so far as can be observed, as those that were used in the construction of the covering on the outside.

It would appear from this observation that under the conditions existing at Watsonville by far the larger percentage of the worms gain entrance to the inside of the apple before the poison can reach them. In sprayed trees it was observed that the majority of the worms died before going deep into the fruit. This is in striking contrast with the history of the worms in unsprayed trees adjoining. There

can be no doubt, therefore, that in some manner the poison that was on the surface of the apple reaches the worm after having gained entrance to the fruit. How this can be accomplished can be explained in one or two ways: Possibly there is a gradual solution of the arsenical, the material spreading itself over the surface of the fruit and some of it finding its way into the burrow and there being eaten by the worm. One would expect, if this were true, that the worms should show signs of chronic poisoning rather than be killed outright, which appears to be the case. The second possible explanation is that the worms after entering the fruit get out to the surface again and obtain the poison in larger quantities. According to our observations this seems the more probable. A single particle of the green would, probably, be sufficient in the young codling-moth to produce violent poisoning. It is a matter of positive observation that comparatively large areas of this surface immediately adjacent to these burrows are eaten off by the insect. This is true of both sprayed and unsprayed trees, and it is only after the insect has increased considerably in size that it penetrates deeply into the fruit. A rather complicated burrow is made immediately beneath the skin of the fruit, and while it lives in this surface burrow it feeds, in part at least, upon the surface of the apple. It is during this period of surface feeding that the destruction of the worm is liable to happen.

A microscopical study of sprayed leaves shows that the particles of green are really found only at rather distant intervals upon the surface of the leaf and fruit, and unless the insect feeds over a comparatively large area of the surface it is difficult to understand how it would obtain the poison in sufficiently large number of cases to account for the efficiency of spraying operations. The surface eaten over, however, by a young codling-moth larva, as described above, is amply sufficient to enable it in most cases to find one or more particles of the poison on a well-sprayed tree.

The practical bearing of these observations upon the spraying operations is that they emphasize (1) the advantage of filling the blossom cup in any except in semi-immune areas, like a portion of the Pajaro Valley; (2) the importance of covering the whole tree with poison in order to reduce, as far as possible, the number of entrances, since each entrance means a blemish on the fruit; (3) the benefit of continuous work season after season, so as to keep the insects down to as low a number as possible, to further diminish the number of entrances; and finally, (4) during the whole period when the eggs are being laid the need of extreme care in the spraying, so as to keep the fruit thoroughly and uniformly covered with the poison.

SPRAYING OPERATIONS IN THE PAJARO VALLEY.

By PROF. WARREN T. CLARKE, OF BERKELEY.

The spraying experiments carried out by the University of California Agricultural Experiment Station, working in co-operation with the counties of Santa Cruz and Monterey, during the season of 1903, have produced very interesting results and furnish a fund of data that will be of great value in future operations against the codling-moth. It seems quite pertinent to review briefly at this time the work done and to indicate in a general way the results obtained and their application to the problem of the economic control of this scourge of our apple and pear orchards.

The Scene of Operations.—The territory covered in these spraying experiments extends from the Carmel Valley in Monterey County to Boulder Creek in Santa Cruz County, a distance of some sixty-five miles, and is in some places twenty miles in width. This extent of territory afforded a great diversity of climatic conditions to be studied, because of the different exposures and altitudes of the many apple orchards therein. Some of the orchards on which our experiments were made are not more than twenty feet above sea level, while others were used that ranged up to near nine hundred feet altitude, and all intermediate elevations were represented. The climatic conditions encountered ranged from the rather cool, moist weather so characteristic of the Pajaro Valley, to the warmer, drier conditions found in the sheltered valleys of the Santa Cruz Mountains and in the hills of northern Monterey County. In this territory, also, many different soil conditions are found. The moist, rather heavy alluvial soils of the main Pajaro Valley, the occasional adobes of this same valley, the rather lighter gravelly loam of the mesas, the sandy and very light sandy soils of some of the hill regions, on all of which apple orchards are commercially grown, were represented in our experiments. These various and diverse climatic and soil conditions are valuable in experimental work of the character of this under discussion, because they render that work and its results more general in their application in the region studied than could otherwise be the case. The conditions found in this region, however, are not generally the same throughout the State, and therefore the recommendations based on the experience here obtained might have to be modified to meet local conditions elsewhere. The numbers and activity of the insect under consideration vary quite materially in the different zones found in the region described, due to climatic differences, and the vigor of the apple trees also varies according to both soil and climatic conditions.

These differing conditions suggest immediately the fact that spraying

operations which might be quite successful and satisfactory in one part of the territory could not reasonably be expected to be satisfactory in all its parts. The necessity of considering these conditions was clearly shown in the spraying experiments of this season.

General Principles Governing the Work.—The opinion of most investigators is that the most effective time to spray for this pest is when the blossom petals have fallen and the young fruit is still upright. The theory underlying this recommendation is that at this time we may place a small amount of poison in the blossom cup, and the calyx lobes closing together later on will retain this poison ready to be eaten when the young worm enters the fruit. This, of course, presupposes that many, if not most, of the worms will make their entry at this point. This principle is so strongly insisted on, in much of the literature on the subject that the time of many of our first sprayings was governed by it. When, in our experiments, we began operations at this time we usually made our subsequent operations follow at intervals of from three to four weeks. In other experiments the timing was not based on this idea. Indeed, we have aimed in the work to begin operations at various periods in the development of the fruit, for the very purpose of determining the soundness of this and other theories and the value obtained from greater or less numbers of sprayings. To illustrate, we have sprayed some orchards at the time the petals have fallen and at intervals of from three to four weeks thereafter until these orchards have been sprayed five times. On other orchards our experiments have been begun from twenty to twenty-five days after the petals had fallen, and on others work began forty and sixty days after this had occurred. Under this system we have orchards that have been sprayed five, four, three, and two times, the last spray being, in each of these cases, put on from three to four weeks before the fruit was picked. On other orchards spraying ceased in some cases forty, in others sixty, and in others ninety days before picking. By these methods the comparative value of early and late spraying may be demonstrated, and also the comparative value of many and few sprayings. Indeed, we have endeavored to experimentally prove the value of few and many sprayings and of early and late sprayings under all the climatic changes to be found in the territory where these experiments were conducted.

Machinery and Devices Used.—It was early recognized that the time of application of the spray used was but one of the many problems which confronted us in the work, and that the method of application was of large import in the matter. We have, therefore, carried on many experiments with different pumps and spraying outfits, both hand and power, and with many makes of nozzles. We have also had made numerous devices, suggested from our field experience, looking

toward better and more uniform distribution of the material at a less cost than is usually the case. Time does not permit us to enter into the detail of these experiments in this paper. They will appear in full in the series of bulletins soon to be published by the Experiment Station.

All we will attempt now to say is that work with platforms built upon the spray wagon which permits of an economical and thorough distribution of the material from above has proved such an improvement over the present methods in this State that it should lead to a very general adoption of the method in the future, as is the practice in many parts of the East. That the use of power outfits is in the long run more economical and undoubtedly more satisfactory than that of hand outfits in well-grown orchards we consider as also amply proven in our experiments.

As for the most satisfactory nozzle to use, our experiments seem to indicate that early in the season a rather coarser spray is to be desired than is the case later on in the year. A nozzle, therefore, that would be satisfactory for the first two sprayings would have to be replaced by one throwing a more finely divided and fog-like spray in subsequent operations. This is a very complicated subject, however, and will be thoroughly discussed in a bulletin about to be issued by the Experiment Station.

Arsenicals Used.—In the greater number of our spraying experiments during the past season the arsenical poisons were used, and in no case were satisfactory results obtained from the use of other materials, many of which were experimented with. It will not be necessary to give details of our work with these other materials in this paper. Of the arsenicals, the paris green is the best known and was most extensively used in these experiments. The reason for the very large use of this arsenical is primarily the fact that it is easily obtained and its purity or impurity can be readily determined by analysis under the law governing its sale in California. All of the paris green tested and used by us this season was well below the limit of four per cent free arsenious oxid allowed by this law, and its physical condition was, generally speaking, good. In our spraying experiments the paris green was always applied in combination with lime, on account of the liability of burning the leaves under those climatic conditions. The amount of lime used per pound of the green varied on different orchards from four to twenty pounds, and on all but one orchard the milk of lime, well strained, was used. In the case of this one orchard clear lime water was used, and while very satisfactory results were obtained such a method of procedure can not be recommended until further experiments along the same line have been made. At least fifty per cent of the orchards of Monterey and Santa Cruz counties were sprayed with some combination of lime

and paris green; some of them five, some four, some three, and some two times, and some early in the season only and some late. We also experimented very fully with the arsenite of lime, made up under the so-called Kedzie formula. This arsenite was used on fewer trees than was the paris green, but so far as number of applications is concerned the experiments with it were as extensive as were those with paris green. The lead arsenates and arsenites made up from the soluble soda arsenite and both the acetate and nitrate of lead received their due amount of attention, as did also the manufactured lead arsenate which is sold under the trade name of Disparene.

"Dust" Spraying.—Besides this work with the arsenicals used as sprays, we experimented to some extent with the so-called "dust" method of applying the poison, using the paris green in combination with dry slaked lime well powdered and sifted. Various devices for applying the "dust," which are more or less unsatisfactory, are on the market. The devices all use either the ordinary bellows or the rotary blower to scatter the material where it is desired. The former is quite out of the question for orchard use, but there may be a future for the rotary blower. Our experience this season with the "dust" method leads us to consider that with the devices at present available for the purpose thoroughly satisfactory results can not be obtained except on a very small scale. We would consider that were these devices better adapted for work on a large scale, the "dust" method would be quite desirable under such conditions of climate as obtain in some parts of the Pajaro Valley and in some other portions of California where there is a maximum of atmospheric moisture (dew or fog) and the minimum of wind that the "dust" may remain in position upon the foliage and fruit.

General Results.—When we come to consider the results obtained in the experiments for the control of the codling worm we are confronted by an interesting and very extensive series of facts and figures. The major part of these results fall readily under two heads: damage to foliage and control of the codling worm.

Damage to foliage when the arsenicals are used as a spray may be either acute or chronic. The acute damage, commonly known as "burning," was noted in a number of cases, and is usually, perhaps always, preventable; that is, it is generally the result of some accidental condition, such as the use of a paris green in which there is an excessive amount of uncombined arsenious oxid, a failure to properly stir the spray mixture, thus allowing the arsenical to come from the nozzle in an overdose, overspraying or letting so much of the mixture fall upon the leaves that it runs together in drops, and too small an amount of lime for the arsenical used. Any of these conditions may cause the

characteristic blackening and scorching of leaves or "burning." In our experiments this season the cause of every case of this trouble was found to be some one or more of the above noted factors. This acute damage can be seen plainly within a week after the application of the spray, and a recognition of the accidental cause and an elimination of it from subsequent operations will doubtless always prevent a repetition of the trouble.

The chronic damage to foliage is a rather more obscure and difficult matter. It may be described as a chronic, cumulative arsenical poisoning of the cells of the leaves, causing them to ripen, turn yellow, and the leaves to fall prematurely. Some of the orchards upon which our experiments were conducted suffered very seriously from this trouble. The locality is one in which poisoning is extremely liable to occur. We trust that this damage may be prevented in future operations if due caution is exercised. This is a point on which we intend to make further studies the coming season. We know that this chronic poisoning of the foliage occurred only on those orchards where spraying was done often and at short intervals of time. A study of the surrounding conditions on these orchards seems to indicate that so far as the codling worm is concerned as good control might have been obtained if the number of sprayings had been fewer and the intervals between sprayings greater. Furthermore, it was noted that the orchards sprayed with paris green suffered more from this chronic poisoning than was the case where any other of the standard arsenicals was used. Quite evidently there is necessity of careful observation in the orchards that are liable to damage from burning to avoid excessive spraying. As soon as the foliage shows distress in the slightest degree we have evidence that the accumulated doses of arsenic have exceeded the necessary amount for efficient protection against the codling-moth. Perhaps in the regions most susceptible to chronic poisoning it will be necessary to discard wholly the use of paris green and to substitute one of the less dangerous arsenicals.

Turning now from this question of possible damage to the foliage which must be guarded against, we come to the consideration of control obtained of the pest in question, the codling-moth. As for the effectiveness of the different standard arsenicals used, there seems to be little to choose between them. The paris green is not, generally speaking, so satisfactory to work with as either the lead or lime arsenicals. These latter are more flocculent, that is, they "stay up" better in the tank, as it is expressed, than does the paris green, and a more even distribution of the poison is probable when they are used. While the results obtained by us, when either the home-made or commercial lead arsenates were used, were slightly less satisfactory than with the other arsenicals, our experiments this season point to a possible great value in these compounds of lead and arsenic.

The fact that both the lead and lime arsenicals can be made at home is a point in their favor in the minds of some growers, inasmuch as the danger from impurities and neglectful methods of manufacture is removed when they are used. Our experiments this season certainly show their great value, and they are deserving of extensive use in this State in the future. The results of this season's work indicate that a very large degree of control can be obtained, but the seasonal conditions in the development of the worms must be studied to obtain this success. There are times in the life history of the moth when the presence of the poison on the fruit will be very effective in protecting the crop, while at other times the need of protection would not be so great.

Our studies during the season just past indicate two times of maximum appearance of the moths in the Pajaro Valley, and the most effective sprays are evidently those applied at these times. These times of maximum development may be roughly stated as occurring in the late spring or early summer and in the late summer or early fall. We know from our studies this season that, owing to certain climatic conditions, a portion of the region under discussion may be classed as immune against the codling-moth. Other parts of the territory suffer exceedingly from this pest, and various grades of susceptibility are found between these two extremes. Where the condition of immunity exists, of course no spraying operations are necessary. In all other cases studies must be carried on in each individual orchard, or at least in each local group of orchards, to determine the time for spraying and the number of applications to be made. As for the spring spraying for placing the poison in the blossom cup, this may, under certain conditions, as has been pointed out in the previous paper, be omitted. How widely this policy is safe can only be known after careful experiments have determined the point for each locality.

The time to spray for the spring brood of worms, where this brood causes a considerable loss, can be readily determined by the breeding-cage method. This consists in placing a number of the hibernating worms in glass jars and covering the mouths of the jars with cheesecloth. These may be taken in their pupa cases from old boxes, bands, or other likely places during the winter. These jars should then be put out in the orchard in such situations that the sun will not shine on them, nor water leak into them, and yet where the pupæ in them will be subject to all the temperature changes of the season. A careful watch of these improvised breeding cages should be kept, and when moths begin to appear in them in numbers spraying should begin about a week thereafter, and this spraying should be repeated in about three weeks. It will be advisable to examine the jars regularly once a week and to remove the living moths from the jars each time, so that the count of appearances may not become confused.

The timing of the later sprayings can be determined by the band method. This consists in placing bands of burlap about the trunks of a number of trees in the orchard and keeping a careful record of the codling worms found beneath them. For the purposes of this study the bands should be removed at least once a week, and when the worms beneath them have been counted and destroyed the bands should be replaced. Spraying for the second brood should begin as soon as the worms become common and comparatively numerous beneath the bands, and as long as they continue to appear in numbers the spraying should be repeated at intervals of about three weeks to effectively protect the fruit against this second brood. This may require as much as three treatments in the Pajaro Valley, possibly even four in the interior. These studies will, if carefully prosecuted, indicate for each orchard and season whether two or three sprayings or five or six are necessary to obtain control of the codling worm. It may be possible in those localities where the seasonal variation is not great to determine a definite program for times of spraying by continuing these studies through two or three years. Indeed, the whole series of results obtained by us indicates the necessity of a proper timing of the spraying, if the best returns are to be expected, and this timing, as before stated, can only be determined by a study of the development of the worms.

In conclusion, we can say that our spraying experiments in the Pajaro Valley this season have demonstrated the possibility of keeping the loss from the codling worm down to about five per cent of the crop, as against from twenty-five to forty per cent where no spraying is done. The cost of this work will be from fifteen to thirty cents per tree for the year's work, reckoning on trees ten or twelve years old.

Our positive recommendations as to the all-important question of timing the sprays are:

First—In every locality, until definitely proven that it can be omitted, spray at such a time as to leave a dose of poison in the blossom cup.

Second—One or more sprays for the spring brood of moths, as determined by the breeding jar.

Third—Spray against the summer and fall worms, as determined by the examination of bands.

RESOLUTIONS RELATIVE TO WORMY APPLES.

MR. ROGERS, of WATSONVILLE, presented the following resolutions, in pursuance of instructions from the Pajaro Valley Orchard Association:

WHEREAS, It is an established fact that some of the leading markets of our State are supplied with such large quantities of wormy and scaly apples that those markets are constantly glutted with this inferior grade of fruit, to such an extent that there is slight

demand or sale therein for first-class apples; and further, the price that this low grade of fruit sells for is so low that little or nothing is netted the grower for the sale thereof; therefore, be it

Resolved, That it is the sense of this Convention that steps be taken to relieve the markets of this State, particularly San Francisco, of wormy and scaly apples, by promoting such legislation as may be necessary to prevent such grades of fruit being received and sold in said markets; and be it further

Resolved, That a committee of three be appointed by the Chairman of this Convention, and empowered to take the necessary steps to secure the enacting, by the Board of Supervisors of San Francisco, and by the State Legislature, of such legislation as may be necessary to keep said markets free from wormy and scaly apples.

Referred to the Committee on Resolutions.

AFTERNOON SESSION—THIRD DAY.

THURSDAY, December 10, 1903.

VICE-PRESIDENT MCINTOSH. Members of the Convention, you are all probably aware of the fact that the program for this afternoon has been turned over to the ladies, and will therefore be recognized as a ladies' session of this Convention.

I desire, before proceeding to the program proper, to appoint a committee of three, in compliance with an order of this Convention passed day before yesterday, to inspect the exhibit in this hall and to report upon the same before the close of this Convention. I will now make that appointment, with your consent, viz: Mr. Leonard Coates, Mr. W. D. Weaver, and Mr. R. D. Stephens of Sacramento.

Ladies and gentlemen, the first topic upon the program this afternoon is that of "Co-operation and Organization," an essay or paper by Mrs. E. Shafter-Howard.

ORGANIZATION.

By MRS. EMMA SHAFTER-HOWARD, OF OAKLAND.

(Read by Miss INA DORE.)

In coming before this Convention, I am called upon to qualify the subject "Organization" as given to me, by reference to the Union of "Women in Agriculture and Horticulture," as suggested three years ago.

I had just returned from a trip to England as a voluntary delegate to the "International Council of Women." At this great council only the broadest conceptions of the relations of the individual to the interests of humanity were considered, and the various educational, industrial, and economic working forces leading thereto. There were

delegates from seventeen countries of the world. Among the many subjects presented, none proved of greater interest than that which dealt with the soil and its products. It touched the keynote of human dependence and interdependence in economic relations, and offered something concrete and demonstrable as a working basis. England was awakening to a sense of her failure to compete with Denmark, Holland, and Belgium in the matter of domestic supplies; and aside from the national aspects of the situation, individuals were arousing themselves to heroic efforts to establish agricultural and horticultural training schools for women as well as men; proprietors of great estates were learning the technicalities of butter-making, cheese-making, poultry-raising, etc., that they might stimulate these industries in their own neighborhoods, and, as in France, multiply national schools.

The small initiative taken at this council by the delegate from California resulted in an "International Agricultural and Horticultural Union" between the delegates of seventeen countries as a *practical demonstration* of the "council idea."

Facts and statistics, gathered in California, of the work of women in the making of homes upon the land served as the stimulus to this union. Upon my return to California, I was convinced that if the registration of such work throughout the fifty-seven counties of our State could go on—that if this registration and representation of concrete work could be made to center in a bureau of information—a great deal of *capital for promotion work* in this State would be added to that which men already represent in conventions and organizations.

When it comes to queries and answers from far and near as to the advantages of home-making upon the land, many of these bear closely upon the concerns of *women who make them*. This is true, whether in co-operation with men, or, as has been frequently the case, where women have been thrown upon their own exertions in order to keep their homes; in many cases developing small industries in raising and preparing fruits, etc., for market.

When I ventured to suggest to the few women present at the Fruit-Growers' Convention three years ago that the keynote of this organization was to be "co-operation," that every factor that was ready for co-operation would therefore be welcomed, that those women who had already entered the lists of producers were entitled to the recognition of their work as being of economic value, and that their experience and interest were needed in the deliberations of both men and women working for a common cause, I hoped that the response would be hearty and generous. It certainly was such, so far as the hospitality of the Convention was concerned.

A small beginning was made toward the "Union of the Women of California in Agriculture and Horticulture" at that time. Cards, setting

forth the objects of such union, were sent broadcast throughout the State; officers were elected whose names carry weight along lines of actual achievement in agriculture and horticulture; names, facts, and statistics were solicited by the corresponding secretary that the work of registration might go on.

The objects, as stated, were: 1. For the benefit of each separate county and its workers; 2. To circulate useful information, to compare methods of different districts and counties, and to encourage and stimulate (a) farming, dairying, stock-breeding, bee-keeping, poultry-keeping, etc., (b) fruit and flower growing for profit, landscape gardening, arboriculture, forestry, etc., (c) the management of estates as employers and employed, (d) the encouragement of working amateurs in the making of fruit gardens as distinguished from fruit orchards, etc.

This was done before the organization of the Merchants' Exchange and business men of San Francisco into a "*promotion committee*" to advertise the resources of California and to promote its settlement.

Women are already engaged in the various industries referred to, and their record is phenomenal. Facts and statistics only need recording, co-ordinating, and representing in order to become important factors in co-operation and in "promotion work." For want of a vigorous method to this end, many inquiries have come to me, as corresponding secretary of a prospective "Union of Women in Agriculture and Horticulture in California." The International Union of the women of seventeen countries has been responsible for these inquiries, as well as the separate unions formed in a few of these countries. The women of California have no bureau of information to which practical women can apply for knowledge of opportunities and conditions for the making of homes upon the soil in California; nor are they represented, individually or collectively, in organizations of men. It is in the power of organized bodies, such as the Fruit-Growers' Convention and the Promotion Committee, to solicit and register the efforts of both men and women upon the land in this State; first of all, to recognize and assert that the growth from *within the State*, as already peopled, is quite as important as prospective growth from without. I would therefore suggest to this Convention that special efforts be made to accept and to follow up the initiative already taken by the "Women's Agricultural and Horticultural Union of California," and its incorporation into all "promotion work" of whatever sort already undertaken by men.

Having printed and distributed all that I can say in detail upon this subject, I shall only add that one need not be an agriculturist or horticulturist to be intelligently interested in the economic problems of one's State, nor to know "where one's bread and butter comes from," to earnestly wish to help in the work of organization. As for plan—the

simple extension of the work of our hands as well as the work of our brains is an individual privilege as well as a duty. The contribution of individual effort to the sum total of human effort, regardless of sex, or class, or creed—this is our privilege and the world's need.

TRAINING CHILDREN IN THE RURAL IMPROVEMENT IDEA.

BY MRS. AMOS HARRIS, OF FOWLER.

To train children in rural improvement ideas means to train children to see, to observe the beautiful in nature, to become interested in plant life. It means to awaken in the child mind a desire to have a plant, a tree, or a garden of his very own, where he can study out the mystery of "how to make things grow." When we have interested the individual child in the individual plant we have formed a nucleus for rural improvement ideas, which may unfold into an association for creating "homes beautiful" on the treeless lands of the yet unreclaimed deserts. Senator Stanford gave California horses a world-wide reputation for speed by putting his colts to do precisely what he desired them to excel in on the track in after years. In other words, he sent his colts to school to learn to *do* by *doing*. Parents should learn a lesson from Senator Stanford's experiment. It is a mistake to bring children up in idleness and expect them to become industrious men and women. That child is defrauded of its birthright which is mistakenly allowed to grow up in idleness, instead of being taught from babyhood to be helpful.

Our public schools are doing a great deal with their nature studies to interest children in rural improvements, but to the parent should the child be indebted for its first lessons in the industry of tree-planting.

Children naturally love to *do* things, but they do not love drudgery, and that which we are compelled to do becomes drudgery. There is, in Booker T. Washington's interpretation of the negro problem, a thought for parents and teachers that should be generalized: "After the war," he says, "it was not unnatural that a large element of the colored people at first interpreted freedom to mean freedom from work with the hands. They naturally had not learned to appreciate the fact that they had been *worked* and that one of the great lessons for free men to learn was to work. They had not learned the vast difference between working and being worked." Their difficulty was not peculiar to their color. How many boys have been driven from the home farm because their fathers insisted on working them, instead of allowing them to work. How much better if parents would lure their children to industry by companionship and pleasant stories.

When you give your boy his first lesson in tree-planting, don't set *him* to digging the hole while *you* hold the tree, but you dig the hole while he examines the tree. Tell him to carefully cut away all the

bruised and broken roots. Call his attention to the little roots with their network of feeders. Give him a microscope to examine the shield-covered points that push their way through the earth to find food. Give him your idea of a well-balanced top, and see how quickly he will carry your thought into action by clipping the right branches, and now will be a good time to give him the scientific theory of pruning, the difference between pruning for shade and pruning for fruit. Children take naturally to science, because they naturally love the truth. They want to know the truth about the things that interest them, and it is easy to interest them, even in a hole to set a tree. Show him that you have put the top dirt on one side and the bottom dirt on the other; that when you set the tree you put the surface dirt around the roots because it is already prepared, by the action of the sun and rain, for plant food, and that the tree will thrive better for taking that precaution.

When cultivating time comes, don't send your boy out to *kill weeds*, but rather tell him to loosen the soil about the trees and clear the ground of everything that will rob the tree of moisture or plant food. Fix the mind on life and growth, not on death and destruction, and the weeds will incidentally disappear. It is the same with the garden of the soul—cultivate the virtues and the vices will disappear.

Life has become too strenuous. In our eager desire to make money we forget to enjoy what we already have. Let us relax, become children with our children. Stand still and listen until we feel our pulses beating time to the throbbing of nature's heart. Some one has beautifully said: "He who plants a tree by the wayside plants a thought of God in the hearts of his fellow men." Let us take our children into partnership with us and go on planting trees till our highways and byways, our streets and alleyways become shady avenues, where birds and squirrels will build their homes without fear of gun or sling in the hands of depredating boys and men. For it is true that the boy who becomes interested in plant life soon becomes interested in the sacredness of animal life and loses his savage desire to kill and destroy. The God thought planted in his breast is beginning to bear fruit.

Disabuse children's minds of the idea that they go to school to get an education so that they will not have to work with their hands, as their fathers do, to make a living. But rather inculcate the idea that they get an education so that they may work more intelligently at whatever occupation they may choose to enter. I know a small girl who is allowed to use the pruning shears on a few trees according to her own fancy. She is ambitious to go to the University some day, so that she may learn to become a landscape gardener; and why should she not some day realize her dream of a home surrounded by grounds made beautiful by her own hands?

We want educated people in all ranks of life. Then work will become

honorable and idleness a disgrace, whether practiced by a millionaire or a mendicant. Then our streets and parks, public buildings, and private residences will delight the eye with artistic effects. All will have correct ideas of rural and civic improvements, from the least to the greatest, and each will vie with the other in giving expression to his thought ideas. Truly, labor is worship, work is prayer, when it is done with willing hands and a joyous heart.

FLOWER GARDENING.

BY MRS. FRANK COOK, OF FRESNO.

The subject of flower gardening is the poetry of the horticulturist. Even a layman enjoys looking at a beautiful flower garden, if he is sure it won't cost him anything to maintain it; but the true lover of nature sees gardens everywhere—in every landscape, in every mountain meadow, in every public park. But the true spirit of gardening is shown in the little plot about our homes. If the members of a household possess an innate love of flowers, it will manifest itself in some way in and about the home.

Some people have the idea that a garden is an expensive luxury, but so far is this from being the case, that there is nothing brings such rich rewards of pleasure for so small an outlay. The success of a garden lies more in the person than in the purse. A few cents' worth of seeds, a trowel, and the will to do, are all that are absolutely necessary. In fact, I know a woman who raised an excellent garden with no other implement than a butcher-knife.

Only this year a friend of mine raised a little hanging garden on a broad veranda without a cent's worth of extra expense. She gathered up little cast-away pots and jars and bottles and filled them with soil and placed little sprays of Wandering Jew and slips of geranium—anything—everything—and hung the pots to poles of bamboo along the sides of the veranda, and with a little attention the plants grew and prospered until that veranda was turned into a veritable fairy bower—the effect was striking and artistic.

For town gardens, a little plot of grass with a high background and border of flowers is more effective than a front dooryard full of shrubbery and trees. If trees are planted, it is advisable to use the deciduous varieties nearest the house, as they drop their leaves in winter and let in the glad sunlight at a season when it is most welcome.

If neighbors would collaborate in regard to the general appearance of lawns, it would add to the symmetry of the street and yet give each an opportunity to display individual taste in the variety of flowers and the arrangement thereof.

It is well to choose such plants as are indigenous to the soil, or such at least as will readily adapt themselves.

In the way of annual vines for verandas or trellises, the momardica, or balsam apple, is among the first. It luxuriates in this climate and has many excellent qualities—is remarkably free from insects, is a rapid grower, and can be festooned and draped like a lace curtain. In autumn it hangs full of red apples, and is usually fresh and green until Christmas. I saved three quarts of seed the first year I grew the balsam apple and sent it to friends in different parts of the United States, but from reports it did not flourish as it does here. A high board fence covered with the balsam apple makes an artistic background for a small garden. Next to this fence one could plant chrysanthemums, which can be grown quite tall, and the fence would make a good support. Then a row of summer-blooming carnations would flourish with little care, and to finish all, a border of violets, gradually sloping down to the grass plot—and there you have a little flower garden, with a succession of blossoms throughout the season, and all choice varieties—the violets for every spring, the carnations for summer, and the chrysanthemums for autumn.

The next dooryard could be varied with climbing roses for a background, or the moonvine, which flourishes here, with standard roses or dahlias for tall flowers, with stock for early bloomers, and a border of gaillardias, which bloom all the time; and so on, each garden being varied in accord with the taste of the owner.

Such plants of hardy varieties, well cared for, give more genuine satisfaction than all the novelties advertised in the catalogues. A little time each day will work wonders, and it is within the possibilities of all to grow a few things well without the technical knowledge from books or scientists.

In a small garden where space is limited and plants are numbered, I would give the preference to those having the qualities for cut flowers, always choosing the most fragrant, for the scent of a blossom appeals more to me than the sight, however gorgeous in coloring it may be. There is a subtle perfume in fresh flowers that steals over the senses and soothes the nerves, that comes like a balm to rest and refresh the whole system, and perhaps the time will come when physicians will treat cases with highly sensitive nerves with the perfume of fresh flowers, as they now treat with colors.

A kitchen garden of a few square feet is a real help to the housekeeper, and I have derived lasting pleasure from a little Dutch garden with sweet herbs for garnishing dishes for the table. There is a blending of sweet marjoram and lavender, of rosemary and rue, of hyssop and thyme, of sage and tansy and tarragon, and all the old-time herbs that our grandmothers prized. Such a garden when once started almost takes care of itself, and gives a spicy aroma to many a little home dinner.

In gardening for pleasure I have experimented in a haphazard way with seeds and plants, and have evolved some pleasant surprises.

I once planted some rose seeds which were catalogued to bloom in ninety days—which ninety days was a little ambiguous, to start with, as it didn't state whether it was ninety days from the time the seeds were put in, or from the time they sprouted, or from the time the plants budded. It didn't make much difference anyway, as I only grew one plant and it didn't bloom for three years, but it proved to be a very dainty, graceful climber, and at last when it got good and ready it threw out great clusters of tiny white single roses, of surpassing fragrance, and since I have been unable to find it in any of the rose catalogues, I have decided that it is a new rose.

I also grew a beautiful vine that came up as a volunteer, where the year before had grown the cypress vine and the Cuban belle. It seemed to be a hybrid, with a blossom like the cypress and a leaf like the Cuban belle, only deeply serrated, and was more beautiful than either vine. I sent some of the blossoms and leaves to several florists, but none of them could name it. I grew two of these vines at different times, but was never able to get any seed from them.

I have also experimented with carnation pinks, and find that the choice varieties started in greenhouses are not so satisfactory as some of the commoner sorts. I have finally succeeded very well with a field-grown variety, that has all the good qualities sought for except size—and it could be brought up in that particular with proper care. It is perfectly hardy, is a good crimson, has a spicy fragrance, a long, slender drooping stem, and never breaks the calyx. I know of no other pink that brings such a wealth of bloom and fragrance for the care and time put upon it. I start the slips out of doors in November, as they are not susceptible to winter's frosts or summer's heat. It is not a named variety, but a simple seedling.

After all, the purest pleasure in gardening lies in the ownership. There is no garden, however grand, that can compare with your own; there are no blossoms so sweet as those that are cared for by your own hands. To plant the seed, to watch it sprout and expand, to water and cultivate that plant, to see it thrive and burgeon and blossom under your care, to admire its coloring and breathe its fragrance, is nothing short of rapturous joy.

And then if you pick a nosegay of your own growing and carry it to a friend, there is more in its meaning than mere flowers—there is something of yourself mingled with the moist leaves and fresh blossoms—there is something breathes of a friendship pure and holy—there is a spirit of effort on the part of the giver, a spirit of thought and care and time, that makes it more blessed to give than to receive.

Let us strive, then, to make of our home a haven of rest, a refuge from weariness and strife; let us throw in and around our homes an atmos-

phere of culture and refinement, so that the first glimpse may be inviting; and let us cherish the flower garden as a means to this end, so that every passer-by may receive a waft of perfume and an inspiration to create a garden for himself, and so that every inmate of the home may feel that this one spot is sacred, and that wherever he may roam the flowers are still blooming there for him and nodding a glad welcome.

VICE-PRESIDENT McINTOSH. Members of the Convention, I desire at this time to temporarily at least vacate the chair of this Convention, for reasons of a purely personal character. I will ask Senator Johnston, of Sacramento, to occupy the chair during the remaining part of the program this afternoon. Senator Johnston is a parliamentarian of State reputation, and will no doubt satisfy you all.

MR. JOHNSTON. Members of the Convention, it is my pleasure to wait upon you this afternoon, as I have been called upon to do so. The next paper will be

THE COUNTRY CEMETERY.

By MRS. MAY S. McNULTY, OF FRESNO.

The subject-matter under the title of "The Country Cemetery" may be subdivided under three heads: "Present Conditions," "Remedies," and "Permanent Improvements."

I will venture the conjecture that most of us here are Eastern born, and among our recollections of that East are the tree-shaded, hedge-trimmed, lawny slopes that hold the bodies of our dead. The Easterner, as a rule, cares for his cemeteries. In many, a fund provides for perpetual care, so that may we wander ever so far from the spot where some loved member of the family sleeps we know that the finger of neglect will never leave its unholy touch upon trees, or grass, or flowers. The walks and drives remain well ordered, the stones do not topple or lean, shrubs are trimmed, the blossoming borders of the drives are replanted each spring, and every portion of ground not allotted to graves is appropriately arranged.

Six years ago, a dear friend of mine drove to our Fresno cemetery on that saddest of all errands, the choice of a lot wherein to lay the body of her dearest and best. The avenue leading to the cemetery passed the dump piles of the city. When she entered the inclosure the deep sand choked the wheels of the carriage, and lot after lot was filled with weeds taller than her head.

Fresno was then twenty-five years old; the cemetery had been crowded from its first location and had been moved two and a half miles west of the city. The contrast between an Eastern town and one of like size and business enterprise here, is obvious. Our West is a land of workers. Our interests naturally at the beginning lie in the

acquisition of the necessities of life. With these satisfied, we march on to secure gradually the comforts, then the luxuries, and last of all the refinements of the beautiful. We have conditions here, of course, which do not prevail elsewhere. For eight months of the year, as a rule, moisture from above does not touch us. Our irrigation ditches are inadequate, and the arid appearance of ground not under cultivation is discouraging. Those of you from the various localities know of the conditions prevailing there. Is it not true that the average cemetery is wretchedly fenced, unlovely, apparently neglected, because of the parched look that pervades it? Only once a year is the barrenness clothed with the tender green of the up-springing weeds, which must be plowed under, as they can not be allowed to reach maturity.

Organization for improvement is the first essential; then the commission, or committee, or trustees, call it by any name, must be in sympathy with a plan decided upon. As a rule, each town seems to have entered the woods of experience from its own particular corner, finding no paths and but few blaze marks to guide it. Our dead will be with us wherever we live, and often a spot on the outskirts, hastily chosen, is the nucleus of the cemetery; and as the town widens to a city in growth, the resting place of our dead is pushed farther and farther from the business and residence portions, so that it becomes out of sight, and naturally the farthest from the minds of all but those whose interest is personal and unforgettable.

After organization, the procuring of a water supply is the next essential. Wells and ditches are utterly inadequate. We have proved this on ground of an acreage suited to the cemetery of a growing town. A pumping plant owned by a stock company, or by the city, or possibly by individuals, with pipes conveying water to all portions and with rates established by the company for its patrons, cuts the difficulty in half.

Suitable fencing, too, must be provided; the most permanent kind, having iron posts cemented in the ground, and with heavy galvanized wire webbing, of which there are many kinds and designs upon the market. The entrances may be of a memorial character, but do let us build them of a permanent character, not the flimsy wooden arch, but pillars of brick cemented, or best of all of granite, which will stand and remain a monument to the wisdom of the selection.

It is absolutely necessary that on the committee should be one or two members who know something of soils and fertilizers, of artistic grading, of planting and pruning, of the nature and habits of trees and shrubs, of the effect of time on their form, and with these individuals let the rest of the committee work in sympathy. Plans must be made and trees must be planted. In planting trees we might choose those which develop rapidly; but by placing in their neighborhood those of

slower growth yet longer life, they may be ready to fill in any gaps which may occur through blight or decay.

Shrubbery is another feature of the cemetery. Our trees must be placed along the avenues, or as boundary lines, as in Mountain View Cemetery of Fresno, where the Southern Pacific Company's roadway is its southern boundary. At this line, a row of trees, banked by shrubbery of a lower growth, would prove an appropriate and desirable screen.

Captain Kellner, of the Agricultural Experiment Station at Berkeley, suggests the names of several creeping plants which have been used successfully in arid regions to cover the sand wastes and clothe them perennially with tender green. These creeping plants, or grasses, are easily established, but have not the annoying tenacity of Bermuda grass. Ivy geranium, once established, withstands drought and frost, and would lend brilliant color and glossy leaf to many spots now unredeemed.

With only the earth, sky, and water at our command as materials, and with taste, and above all, an intelligent, loving interest in our task, we can make the wilderness to blossom. There are limitations to cemetery work which the city or county parks need not consider. Our labor must be confined to the laying out of a general plan of avenues and foot walks which will reach all portions of the cemetery. To these avenues, their repair, their shade, and their beautifying by a judicious interspersing of hardy shrubs and bordering plants, with provision for water, which is the life of everything in creation, our attention should first be engaged. Trees are unsuited to the plot proper; their roots penetrate too deeply and disturb the permanence of the graves. Confine the trees to the avenues or boundary lines, and choose shrubs and hardy rose trees for the plots.

In the improvement of our town and country cemeteries, there is an opportunity lying ready to the hands and interests of our women's clubs. The Parlor Lecture Club of Fresno began four years ago to take the matter up locally, resulting in the planting of an avenue of trees two miles in length, the grading and oiling of the avenue, an improved water system at the cemetery, whereby larger mains were laid, and the installing of a pumping plant of increased capacity. Money has been raised to erect a substantial and permanent iron and wire fence, and the Club members have pledged themselves to build a memorial entrance gate to be made of Raymond granite and wrought iron. Through concerted action other improvements will follow, and this precedent established, surely others may find it an advantage.

"There is no flock however watched and tended
 But one dead lamb is there.
 There is no fireside howsoever defended
 But has one vacant chair."

These cherished ones of ours, whom we have loved, and cared for so tenderly, to whom we gave only of the best while they lived, when Death has gone away with the spirit, and our last care is to deposit in the earth the empty shell, empty indeed, yet so unspeakably dear, if it were in our power would we not seek for them a spot, the loveliest there is, surround it with flowers of the rarest hue, and ask only that gentle winds visit it, that the sun beat not too fervently, that the softest rains fall upon the earth cover? Is it not *this* that we all crave for them? And what *is* their portion and ours, in this great sun-kissed valley?

RANCH LABOR—FIELD AND HOUSE.

BY MRS. G. W. AKIN, OF OLEANDER.

(Read by MISS NELLIE BOYD.)

MISS BOYD. The paper is by Mrs. G. W. Akin. I am always sorry for the writer when a paper has to be read by some one else. The reader may get the words, but very rarely can one imbibe the spirit, which gives color and life to the paper.

Last year my paper read before this meeting brought forth a spirited argument for and against the importation of Chinese labor. The newspapers took it up, and some went so far as to suggest turning our beautiful vineyards and orchards into hog ranches sooner than be defiled by the "heathen Chinese," and tried to show the danger of the amalgamation of races. The editor evidently took a social view of the matter. It was the practical side to which I referred, not the social, for I do not fear the mixing of the races, because girls are rather particular.

The Chinese Exclusion Act I liken to the proverb, "Straining at a gnat and swallowing a camel." I have changed it to "swallowing an elephant," as a camel is too small. It has closed our Western ports to a class of men who were single; took no part in politics, consequently hatched no plots against our government; were quiet and peaceful at work, lived to themselves, and worked well for us. Now, these are the people who are shut out.

At the same time our Eastern ports are thrown wide open to the scum of Europe. The danger of this wholesale immigration is plainly shown by Frank P. Sargent, the Commissioner-General of Immigration. In his report he says: "An influx of aliens such as the last twelve months have witnessed constitutes a general peril to national interests. The year ended June 30, 1903, was a record-breaking one in the history of immigration. Nine hundred and twenty-one thousand aliens applied for admission at our ports, and only 8,769 of them were rejected. Certainly on this showing some basis can be found for the suggestion that the United States is being deluged with a horde of Italian push-

cart-shovers and organ-grinders, with an army of ignorant, unskilled, and degraded humanity. The majority of these immigrants go to fill the slums of the great cities, and become, when prosperity slackens and the demand for their labor lessens, a burden on our industrial life."

That is Mr. Sargent's report, but it is not all the danger. This undesirable class will, in time, become voters, and help to make our laws. Now the question is, can these ignorant people, born with the seed of discontent so thoroughly sown in their hearts by the tyranny of despotic rulers, be contented with our government, or any government?

No; I am afraid not. To them all rulers are tyrants; all capitalists are oppressors. You see it is your duty to take prompt action in insisting that laws shall be made to keep these people out—and the laws enforced.

The steamship companies are responsible, to a great extent, for bringing this class to our shores. With them it is not "what kind," but "how many." They have freighted their ships to suit themselves long enough. Now let them freight their ships to suit us.

We *do* want immigrants. We want half a million, or more, strong young girls for domestic servants. You may think it imprudent to bring so many unprotected girls here without any visible means of support; but it is not, for what was carried out successfully half a century ago in Australia can be accomplished in America to-day. When Great Britain transported her convicts to the colonies, the colonists were allowed the better class of female prisoners as help, and, as a rule, they were good servants, grateful and glad to get away from prison life. But when transportation to New South Wales was stopped, and the prisoners were removed to Norfolk Island, the settlers were destitute of help. The Home Government then inaugurated an immigration system, and sent girls to take their places. The girls, on their arrival, were taken in charge by the Immigration Commissioners, and the newspapers notified the people when they were to be hired. On the date specified, the ladies went to the government depot, presented their credentials, which had to be signed by a minister or a member of parliament, and got the girls. They were hired for six months at ten shillings per week, which is a little less than \$2.50. If the mistress or girl was dissatisfied, the girl had to be returned to the barracks, and found another place. I understood there was no trouble of that kind. The majority of the girls were Irish. They were quick, witty, kind, and honest. And, by the way, Irish people, as a rule, are honest; there is not as much thieving among the Irish as there is among other nationalities.

In those days it took as many months to go to Australia from England as it now does days to come from Europe here. If they could take care of the girls, so can we. Immigration bureaux could be placed in the large cities, with competent ladies in charge, whose duty it

would be to find homes for them. These girls would grow into our ways, and under good influences would make good wives and mothers.

In the East there are schools to teach girls to do housework; but from what I can learn, they only take up a special line of work; therefore, in order to get the whole house taken care of one must hire a cook, a laundress, a chambermaid, a parlor maid, a woman to do the scrubbing, and a lady to open the door, consequently the housekeeper with moderate means is as bad off as ever.

Our family received a letter from a relative in Indiana lately, in which she says: "I am compelled to sell the farm, as I can not get help in the house, and I am not able to do the work. The girls here are above work." I wonder what the next generation will do? All board, I suppose. But who on earth are they going to get to run the boarding-houses?

One would naturally ask, Where are all our girls? The question, I think, is easily answered. The system of education in America is so complete and knowledge is so easily acquired that when a girl leaves the high school, if she is obliged to earn her living her ambition takes her above the kitchen. Most girls dislike to be called "the servant," or "the hired girl"—although, for that matter, we are all servants. The maid in the kitchen serves her mistress; the President of the United States serves his country, and are we not all servants of God? It is true that the girl in the kitchen is looked upon as a menial, but it does not follow that she has always to stay there. "Servant to-day, mistress to-morrow." *It is brains, not blue blood, that counts in America.* But no matter in what capacity you serve, it is an honor to be a good servant. How well the old negro understood the true value of honorable service when he said to his grandson: "Julius, yo' can't neber be der President ob de United States, honey, but if yo's a good boy yo' can black his boots, an' dat's an honor, I tole yo'."

But if the girls dislike the appellation it is their privilege to reject it. American girls are somewhat independent, and they can afford to be in California, where they get so well paid for their work; and especially in Fresno County, where a girl can earn enough in one season cutting fruit and packing raisins to take her through the business college.

Can any one blame them for wanting to better their condition? Certainly not; it is what we are all trying to do. So, if we can not have our own girls, let us welcome the foreign girls, and give them a chance.

Now, it does not follow, because we object to being burdened with the cast-off of other nations, that we do not want foreigners. America holds out a welcome and protecting hand to all thrifty and intelligent people who are willing to help build up the land of their adoption, not drag it down.

We have a good example of foreign energy in our town. Most of our business men are foreigners, who came here years ago and by their thorough business methods, politeness, and honesty secured the confidence and good will of the people, becoming one with them in the financial and industrial interest of Fresno. We are justly proud of our town. Thirty-five years ago it was a spot on the desert many miles from civilization; to-day it stands the *raisin center of the world*. It is the place for rich and poor: work for one, investment for the other. In what other State of the Union can eleven field laborers make over \$1,400 in twenty days? A gang of Japs made that amount last summer. I know it to be a fact.

No wonder people flock here and that we can not build houses fast enough to accommodate them. A real estate agent told me that he advertised a house for rent, and the applicants had him out of bed before daylight to answer the 'phone.

"I'll take the house you advertised," shouted a woman.

"Do you know the rent? Have you seen the house?"

"No; but I'll take it any way. For eight weeks I've been paying storage on my household goods for the mice to eat up, and I'll go crazy if I don't get settled."

The pessimists predict overproduction, and that raisins will be a drug on the market in a few years. There might have been such a possibility if the raisin-seeders had not come to our rescue, for since the people have found out they have a *vermiform appendix* and that it is a seed-catcher, it behooves them to eschew all small seed fruits. But now they can eat our raisins with perfect safety, and have no fear for that dangerous little part of their anatomy—therefore, our raisins are *safe*.

I anticipate a great future for Fresno. Take a drive through our suburbs and notice the houses springing up like mushrooms. Look at the magnificent business blocks being erected on our streets. What does it indicate? *Prosperity*. With California's glorious sunshine, and abundant snow on her grand Sierras, Fresno has everything to make it and little to mar it.

GOOD ROADS.

BY MRS. LAURA RHEA, OF WEST PARK.

(Read by MISS ETHEL RHEA.)

It is not my purpose to tell how to *make* good roads, but rather to ask *why* our roads are not in a better condition. Here in this broad and almost level valley there are no great obstacles in the way—no hills to level, no great engineering feats necessary, no storms or washouts, no snow to be shoveled, no ice to make dangerous traveling; but one great broad plain having many avenues systematically laid out, and named like the streets of cities.

Do our roads lack for travel? Over 46,000 tons of raisins and hundreds of tons of hay, grain, fruit, and all kinds of produce are yearly hauled into the city of Fresno, all of which has given the city its phenomenal growth, and without all of this produce there would be no city.

Do we lack for machinery to build our roads? Examine the road plow, graders, and elevators; you will find them marvels of ingenuity, and a great improvement over anything used by road-makers a few years ago. They are all up to date, and ought to make first-class roads.

It is true that some, if not all of our roads are now in much better condition than they were in the early settlement of the country. Substantial bridges have been built over most of the canals, and some of the roads have been regularly plowed up every year, and during the past summer, in *some* localities, they have been well oiled or sprinkled. One objection to the present system of road-making is, that more work is done in some localities than is really necessary, and a good many well-traveled roads are wholly neglected. Generally, when residents in a neglected district asked when *their* roads would get any work, the reply was, "No more money. You will have to wait another year." They waited, only to see the road plow start up again in the favored locality.

The editor of "Farm and Vineyard" in the "Fresno Republican" says: "We have the worst roads in any civilized country." He evidently had fallen into some of the chuckholes which are so numerous on our roads, or perhaps he had stumbled over some of the garbage or unpolished tinware which is so lavishly strewn on and along our beautiful avenues.

Good roads are a necessity. They save much valuable time to the farmer, who wishes to get his produce to market as quickly as possible. In this country they do not require great expense in building, and large sums are appropriated every year to build and keep them in good shape. Many of them would be greatly improved by filling up the chuckholes and making them smoother. They greatly enhance the value of the land in the country as well as in the city. It is more necessary to have nice smooth roads than to have them plowed up so often, for we do not always find the smoothest roads where so much plowing has been done.

The new railway now being constructed across Great Salt Lake is an example of how much railway companies value time in running their trains. The San Francisco "Chronicle" in a recent article says: "Of course the carrying out of such a stupendous undertaking will cost a mint of money, but modern railway magnates do not count the cost when time-savers are under consideration. Fifty million dollars will unquestionably be required before the work" (of changing grades and shortening distances) "is completed." All this work has been done to

shorten the distance from Ogden to Lucin 40 miles and to save two hours in time for every train. In one portion of the lake it is said that they encountered a bad sink, or crevice in the earth's crust, which required a *cubic mile* of earth to fill it up. That amount would amply fill every chuckhole in the county.

Good roads are a splendid advertisement for the country. Who can estimate the value to California of the road leading to Yosemite Valley? Those who have traveled it, say it is the best mountain road they ever saw. The Yosemite Valley is not a commercial place. The road was built at great expense, and is used mostly by tourists who visit the valley for pleasure and to see its wonderful beauties. If it was necessary to have a good road leading there for pleasure, how much more important it is to have good roads over which we must haul our produce to market. The days of ox-teams and prairie-schooners have passed. We live in an age of bicycles and automobiles, which require good, smooth roads. Railways and electric roads are usually built by private means, and no pains or expense is spared to make them efficient. Public roads are built by taxation. Every one must contribute a share of the taxes. How necessary that this money should be used wisely. The National Grange at Rochester, New York, November 17th, submitted the following resolution:

Resolved, That a standing good roads committee be appointed, whose duties shall be to gather all the information possible regarding the workings of the road laws and systems of the various States, and any and all information obtainable bearing upon the subject; this matter to be published in such form as the committee deem best for distribution.

Resolved, That all State granges be requested to co-operate in this movement.

These resolutions were for the building of national roads. In Congress last year a bill was introduced appropriating \$20,000,000 for national road building. A similar bill will go before Congress this session.

We have over fifty miles of roads in this district, and most of them are in fairly good condition, except the numerous chuckholes, many of which are near and some within the city limits and all dangerous, especially at night.

I can not close this subject without speaking of the weeds and cockle-burs which are allowed to grow along our highways. They are never cut until their seeds have fully matured and are well scattered over the ground. They have spread so rapidly that many pastures have more cockle-burs than grass or alfalfa. They are often thicker on the cattle than bacteria in the milk. There is no "race suicide" about a cocklebur.

A few years ago at a public meeting a gentleman spoke of the possible damages from Johnson-grass. He said that if any one should tell him that Johnson-grass had made its appearance in his vineyard, and at the same time some one should say, "Your house is on fire," he would

reply, "Never mind the *fire*, pull up the Johnson-grass." How many vineyards have been ruined because this grass is allowed to grow and mature along the highways.

How much better our roads would look if they were bordered with trees or flowers. The road leading to the cemetery is greatly improved by the trees which now border it. Also Kearney, Elm, and the beautiful avenues east of Fresno are all improved by the lovely trees and shrubs which now border them.

Many cities take great pride in having nice suburbs, where those who do business in the city can have a nice home with pretty surroundings. These pretty places really add as much to the beauty of the city as a pretty yard adds to the house which it surrounds.

Road-making is everywhere engaging the attention of, we might say, the entire civilized world. Representatives are sent to other countries to study and report the best and most economic methods.

People everywhere who use the roads are complaining of their present condition. All of which is proof that they *do* need improvement. Owners of land could greatly assist the road-makers by keeping their borders free from weeds and cockleburrs. Many of them carefully cultivate their vineyards and orchards, but never touch the land near the fence or roadside. Some of our enterprising vineyardists have planted oleanders and roses on their borders. These need very little cultivation, but what a beautiful sight when in bloom. Others have palms and umbrella-trees. We should encourage this planting along our highways. In a few years this valley would look like a vast garden of trees and shrubs.

Does it pay to plant trees along the roadside? One of our neighbors, whose land is bordered with palms and umbrella-trees, trimmed up the umbrellas last year, and the trimmings furnished many cords of good wood. Another owner on Muscat Avenue sold his figs on the trees for \$400, and every tree was on the border of his land. Another owner obtained over fifty cords of wood from cottonwood trees, all of which grew on one side of a twenty-acre lot.

Our people spend much money every year in advertising the resources of the county. Would it not be money well spent to give us better roads? Every farmer would be certain to say yes, and good roads would be a great inducement for people to locate here.

EXPERIENCES OF THREE WOMEN IN RUNNING A POULTRY RANCH.

By GERTRUDE WILSON, OF PETALUMA.

(Read by MRS. SHERMAN.)

MRS. SHERMAN. Mr. Chairman, and ladies and gentlemen: I must crave your indulgence, as the lady who was to have read this paper has just sent it to me. I have not read it over, but I will do the best I can with it.

We began our venture three years ago last March. "We" means three middle-aged women—my two sisters and myself. We were providentially led to a small place on the outskirts of Petaluma. We rented the ranch (3½ acres) and bought all the outfit already there, consisting of incubators, brooders, houses, wire fencing, many useful tools, and three dozen hens, forty pullets, and about four hundred chicks about six weeks old.

We set an incubator at once. As the man we bought out had one nearly ready to hatch, we had the benefit of watching the eggs cared for and the chicks come out in that before we had to wrestle with our own. We succeeded fairly well with it, and in the fall had quite a fine flock for the winter-laying hens.

I remember most clearly our experience in teaching those chicks we bought how to roost. As soon as we could get to it we prepared for them some nice perches in the middle of the room, shutting the chicks out of the brooders; then we all arranged for a free evening and attempted to make those poor little things roost. We were told to take them one by one and gently put them on a stick; if left to themselves they would pile up in the corners and smother. Some of them stayed on the perches, but most of them would hop down and hike away to the corners again. We worked in grim silence for some time; then the spell was broken, and we compared notes and commented on the depravity of chicks. I believe we did get them all on the sticks, but it was a hard evening's work. After a few nights they got some idea of it, and in the course of time they learned to sleep on the perches. But the next lot were treated in a different fashion. We made an inclosed platform of laths so that they could go nowhere else when they came in at night. And we have always used something of the kind since. The chicks are always quite frantic the first night, and you feel sure half of them will be killed; but after the first night it is not so hard on them. Of course when they are changed to the open roosts they are sometimes troublesome by wanting to sit in the corners, but a few nights' discipline gets them all in line on the sticks. We always sigh with great relief when they have learned to roost in grown-up style.

We always swing our perches on wire hung from the roof. Some one told us it was a safeguard against vermin, and as we have very little trouble with lice, we believe in the wire. Sometimes, after reading in a poultry paper about lice, we get scared and go and look things over, applying coal oil or carbozine, but even with a microscope we fail to find lice on the perches. Occasionally we find that a hen which does not feel well has body lice; but most of our hens seem clean, and we comfort ourselves that vermin can not be doing much harm if we can not find them.

We whitewash once a year in the early summer. The first year we did it ourselves with a small hand pump. We made a good wash according to government recipe: rice flour, glue, etc., and it stuck. Since then we have hired it done, but the wash is put on so thin that it does not wear so well. The whitewashed houses on the hillside look neater than the weather-beaten ones, and we consider the lime a good thing. We use a great deal of air-slaked lime on the floors of the houses after they have been cleaned. We do that work once a week. I can clean the seven houses in a forenoon. I suppose that in the three and a half years there have not been a half dozen times when we have varied a day in our regular cleaning, and then on account of storms. We have the theory that regularity is a big item in doing the work. It is not so disagreeable if done at regular times, but woe betide thee if the work is neglected.

Our flocks are healthy. Of course we lose hens, but usually from indigestion. In feeding so many hens together, it must happen that some are overfed, but we have never had numbers taken away by disease.

We are systematic in our duties. One of the firm is the housekeeper. In the morning the other two go out to care for the flocks; one does the feeding, and the other empties the water troughs and washes them with a broom. (There is water piped to each yard; it is one of the nice things that were done by the former owners of the place.) While the troughs are filling with fresh water, she opens the laying-house doors and shuts the doors of the roosting-houses. Then we go in to our breakfast, after which we are ready for the work of the day.

We began to have a little income that first fall; but expenses were heavy, as we had to hatch again, and had no old hens to sell, to counter-balance the outlay.

From the first we did our own work, except the plowing. The first summer a neighbor planted our garden on shares, but since then we have made our own, and I assure you that vegetables taste extra good when they are of your own growing. We set out about one thousand kale plants each year for our hens.

One of our trials is that men who plow for us do not leave the ground

in as good shape as our father and brothers used to prepare the garden at home. That often means hours of hard work, making the ground smooth, and fine enough to plant seeds in.

Another of our trials is the fact that our little place is on a well-traveled street leading into town, and our efforts at fence building, gardening, and care of our flocks are of absorbing interest to the passers-by. I suppose it is rather startling to see one woman running a small hand plow through the rows of kale, another hoeing in the garden, while the third pushes the lawnmower; but it is getting to be an old story now, and we do not receive as much notice as at first.

As our flocks grew we needed more house room. During our third summer we were able to put on about \$200 worth of improvements. We had a new brooder house built, which we find very satisfactory; it has two brooders, 8 and 10 feet, heated with gasoline, which we like much better than the oil lamps.

We moved two houses to the back of the place, and fenced across, so that we could use the land up there to better advantage. Four of our houses were old brooder houses, which we have made over, with the help of wire netting, into laying and roosting houses combined.

We plan to keep 800 laying hens, which, with the growing stock, means most of the time 1200 or 1400. We have this fall our best brood of chicks. We always hatch both fall and spring. We do not know why this flock is the finest we ever had. It may be on account of the good weather, they may have come from extra good eggs, or the feed may have been just to their liking and administered just right. We do not know, but we rejoice with thankful hearts, and shall be happy in the possession of three hundred pullets, and as many broilers to sell in January when they are four and one-half months old. We must have another house built for these pullets, as they will be crowded out of the brooder houses long before the old hens are through with their spring laying and ready for market. And so it goes, always more to be added in houses or fences.

We take great pleasure in our flowers, have quantities of them, and to people who have lived on a city street where there was nothing green to be seen, our flowers and green lawn seem like a bit of paradise. We do so enjoy seeing things grow, and were fortunate in getting a bit of earth that grows any and every thing.

We have not made much money, but we have proved that three women can make a good living by raising poultry, if they do not mind hard and rather rough work.

I want to impress the fact that we are very well located. Petaluma is the place to get all kinds of chicken supplies. We are in the city limits, have city delivery of mail, are a pleasant walk from the business center so do not keep a horse, have a telephone, and feed supplies are

delivered to us. The express company comes for our eggs, ships them to San Francisco and returns our empty case for 25 cents—two cases for 40 cents. Our place has increased in value. We could sell it, stock and all, for twice what we put into it; but the gain is not altogether the result of our hard work and care, for property is higher in price than when we came to Petaluma. We like the work, we enjoy the outdoor life, and after these few years of experience know of no other way by which we could earn our living together so comfortably and happily.

MR. JOHNSTON. Now there will be discussion on either one or all of these papers, and we will listen to five-minute speeches on any of the subjects. If no one wishes to talk, the Secretary has an announcement to make.

SECRETARY ISAAC. All those who have not received tickets to the entertainment this evening will please come forward and get them.

At this time a recess was taken until Friday, at 9:30 o'clock A. M.

PROCEEDINGS OF FOURTH DAY.

FRIDAY, December 11, 1903.

The Convention was called to order at 9:30 o'clock A. M. Vice-President McIntosh in the chair.

VICE-PRESIDENT MCINTOSH. Before proceeding to the program I will recognize Mr. Markley, chairman of the Committee on Resolutions.

REPORT OF COMMITTEE ON RESOLUTIONS.

MR. MARKLEY. I have here some resolutions passed on by the committee.

Resolution of Thanks to the University of California.

WHEREAS, During the year just past a study of the codling-moth has been carried on under the direction of the Experiment Station of the University of California, working in co-operation with the counties of Monterey and Santa Cruz; and,

WHEREAS, This study and its results are of great value to the apple- and pear-growing interests of the whole State of California; therefore, be it

Resolved, That we, the fruit-growers of California, assembled in our twenty-ninth annual convention, do extend to the President and Regents of the University of California our thanks for the active interest they have taken in this work of State-wide importance, and do express our appreciation of this and all other efforts made and being made by the University of California to further the agricultural and horticultural interests of the State of California, and request them, if conditions permit, to extend such most useful researches; and be it further

Resolved, That the Secretary of this Convention be instructed to forward a copy of this resolution to the Secretary of the Board of Regents of the University of California.

Adopted.

Resolutions Indorsing Work of the Labor Committee.

Resolved, That this State Convention of Fruit-Growers of California does hereby heartily indorse and approve the efforts of the Labor Committee of this Convention in its efforts, during the past year, in bringing labor to California to work in our vineyards, orchards, and packing-houses.

Resolved, further, That we recommend that the efforts of the committee in this direction be continued, and that Mr. H. P. Stabler, chairman, and the committee receive the thanks of this Convention for the successful work performed in this direction.

Adopted.

Resolution of Thanks to the Electric Railroad, Ladies' Parlor Lecture Club, and People of Fresno.

Resolved, That we express our most hearty thanks for the hospitable treatment received from the good people of Fresno, for the courtesies extended to us by the Electric Street

Railway Company, for the elegant reception by the Ladies' Parlor Lecture Club, and, especially, for the arrangements made for the entertainment of the Convention by the local committee.

Adopted.

Resolution on the Isthmian Canal.

Resolved, That we most heartily indorse the construction of the Isthmian Canal, and we also urge the construction, by the Government of the United States, of a trans-continental railroad to fully meet our transportation necessities.

Adopted.

Resolutions favoring the enforcement of the Woodward Act, the postal check currency, and the exclusion of wormy and scaly apples from the San Francisco market, previously laid before the Convention, were reported favorably and adopted.

REPORT OF THE COMMITTEE ON EXHIBITS.

MR. LEONARD COATES. On behalf of the Committee on Hall Exhibit, I present the following report:

Your committee begs leave to report as follows:

The exhibit of apples from Watsonville, by A. N. Judd, is especially worthy of note, the varieties being Smith's Cider, Yellow Newtown Pippin, Langford, White Winter Pearmain, and Missouri Pippin. Among them the White Winter Pearmain is particularly fine.

Strawberries, from the same place, were noted for their large size, firmness, and lateness of season.

Mrs. I. C. Coates contributes very handsome Navel oranges from Red Bluff, almost under the shadow of Mount Shasta.

The Japanese persimmons of A. H. Powers, of Kings River, were a sample of a large crop grown for market and sold at remunerative prices.

In the exhibit of lemons by N. W. Moody, of Kings River, a sample which had been picked fifteen months, being full of juice and in prime condition, is highly commended. The thinness of rind in connection with the other good qualities is evidence of good natural conditions combined with great skill on the part of the cultivator.

"Sunnyside," five miles east of Fresno, contributes freely of Washington Navel oranges, of good color and excellent quality.

Mr. J. P. Bolton, of Fresno, exhibits the "Oil Fire Pots," with electric alarm thermometer, which experience has already shown are a great success in preventing injury from frost.

Mr. J. A. Ashley, a fruit-grower of Yuba City, has exhibited a fruit ladder with a unique and inexpensive device for holding the steps in position. This adds to the efficiency of the ladder without increasing the cost, and is commended to the attention of fruit-growers.

Fancher Creek Nursery makes a comprehensive display of olives and olive oil, Calmyrna fig trees and cured fruit, orange and olive trees, deciduous fruit trees, and grapevines. Attention is called to the Sevillano olive, with recommendation for its further trial, and to the grafted resistant grapevines. The orange trees are especially fine, being grown near the foothills a few miles south of Fresno. Altogether the exhibit of Mr. Roeding is worthy of the highest praise.

Respectfully submitted.

LEONARD COATES.
RUSS D. STEPHENS.
W. D. WEAVER.

Adopted.

RESOLUTIONS RELATIVE TO THE DEATH OF MRS. E. SHIELDS AND B. N. ROWLEY.

GENERAL CHIPMAN. Mr. Chairman, I have been requested by the committee appointed for that purpose to offer these resolutions relating to the death of former members of our Convention and of our society.

Resolutions of Sympathy, Mrs. Elizabeth Shields.

WHEREAS, Since the last meeting of the State Convention of the Fruit-Growers of California, death has removed from among its members Mrs. Elizabeth Shields of Sacramento, a woman of broad ideas, generous mind, sterling integrity, and who, by reason of her extensive interests in and great devotion to the fruit-growing industry, had come to be known, among her fellow workers, as the fruit queen of California; and

WHEREAS, In her death we recognize a loss to the industry, of one of its most enthusiastic and successful exponents, whose energy inspired effort on the part of others, and whose confidence gave stimulus to the work of all with whom she came in contact; therefore, be it

Resolved, That it is the sense of this Convention that in the sad, sudden, and tragic death of Mrs. Shields, the fruit-growers of California have lost one of their most valuable members, and the industry one of its strongest and most practical supporters. Her life was a striking example of what a strong woman can do in the fruit business in California. While recognizing her loss, as one not easily repaired, we extend our sympathy to her immediate neighbors and associates, and especially to her bereaved children, and as a fellow worker we will cherish her memory and ever hold her in grateful esteem.

Resolved, That these resolutions be spread in full on the minutes of this Convention, and that a copy thereof be transmitted to her bereaved children, as a slight evidence of the high esteem we had for their mother.

Resolutions adopted by the Convention by a rising vote.

Resolutions of Sympathy, B. N. Rowley.

WHEREAS, Death has removed from our midst Mr. B. N. Rowley, proprietor of the "California Fruit-Grower," whose recognized talents and great energy were devoted to fostering the great horticultural interests of this State, and whom we had come to regard as a most enthusiastic and effective fellow worker, and whom we were glad to recognize as a gentleman of splendid talents, unquestioned integrity, and great value in promoting one of the State's greatest industries; therefore, be it

Resolved, That in the death of Mr. Rowley the Convention of California Fruit-Growers improves the opportunity to express its appreciation of his great work in our behalf and in behalf of the State we love, and to make suitable acknowledgments of his work as a citizen, as a neighbor, and as a fond and indulgent parent. Few men by their work have made themselves more conspicuous in defense of a great industry, than did our advocate and friend, B. N. Rowley, by his persistent and able exploitation of the horticultural interests of this State, and while pointing with pride to his distinguished services, and holding in grateful remembrance his great life's work and its potent bearing on our interests, our welfare, and on the welfare of our State, we take this occasion to give expression of our sorrow which the fruit-growers of California everywhere feel, in the death of their great advocate; and while condoling with one another in the hour of this great bereavement we extend to the family of the deceased the expression of our sincerest sympathy, and point them for consolation to the words of the great Law-giver, wherein it is said, "He doeth all things well."

Resolved, That these resolutions be spread in full on the minutes of this Convention, and that a copy thereof be sent to the bereaved wife and children.

Resolutions adopted by the Convention by a rising vote.

VICE-PRESIDENT MCINTOSH. I now will ask the indulgence of this Convention for a few moments while we hear from General N. P. Chipman, independent of the regular program of this session.

REMARKS BY GENERAL N. P. CHIPMAN.

GENERAL CHIPMAN. Mr. Chairman, and Gentlemen of the Convention: I do not know that I have any message of very great importance to bring to you to-day, but I want to say that when I came into the hall yesterday morning it seemed to me that there was an atmosphere pervading the Convention which was entirely at war and out of harmony with the true condition of the fruit industry of this State. I had read in the morning papers in San Francisco the utterances of your esteemed President, and must confess to have been very much astounded and very much disappointed at some of his conclusions. I am sorry he is not here to-day, because I wanted to combat, in an earnest manner, the conclusions he has reached upon some of the branches of the fruit industry of this State; and I think it is due to us, it is due to the fruit-growers throughout the State, that the truth should be known, and that we should not give out to the world impressions about this great industry of our State that are not proven and that are disappointing and disheartening to the fruit-growers and will be repellant to those who want to come to this State for the purpose of engaging in this industry. Now, I have been in a position, and am in a position relative to the California State Board of Trade, which enables me to speak with some degree of certainty about the condition of this industry, and I say that it is not true that the orange industry, for example, as reported, is in a discouraging condition, the prune industry in a discouraging condition, the raisin industry in a like situation, and so on through quite a list—the wine-grape industry, for example, added to the list. It is not true, my friends, my fellow-workers in the cause of fruit-growing in this State, that any one of those industries is in a discouraging condition.

Now take the raisin industry. We have an example right before us, an object lesson all around us in this beautiful, prosperous city. They tell us that the crop this year is something like 110,000,000 pounds, the value of which circulates through this community. What does that mean in money, my friends? It means, at present market rates, pretty nearly \$5,000,000. It certainly means four and one half millions of dollars going through the avenues of commerce of this one county. I believe that Fresno practically controls the raisin situation in this State. Now, any of you may take pencil and paper and sit down with any one fruit-grower of this county, get from him the cost of production, all told, in the sweat-box here at the packing-house, and what he

expects to get for them and will in all probability get for them, and the result will show a very handsome profit in the raisin business.

Now take the prune. I am a grower of prunes. I obtained only a 2½ cents basis for my prunes this year, but the entire crop averaged me nearly 3½ cents a pound. I don't want any better fruit business than that. Of course, I should like to get a 5 cents basis, but we can't hope for any such results; but the prune industry, at a 2½ cents basis or a 2¼ cents basis, where the industry is pursued with intelligence, with proper varieties of fruit and taken care of in a proper manner, is as profitable a business as a farmer can engage in, and so I may say of any one particular fruit industry now being prosecuted in this State.

Mr. Chairman, the State Board of Trade is sending forth literature inviting people to come to California. We are doing it honestly, in the interest of this great commonwealth, and doing it largely upon what we believe to be the truth, that the horticultural industries in the State are the great attraction.

In 1880 the exports of fruits from this State amounted to about 585 carloads of ten tons each. By 1890 we had reached over 16,000 carloads, and then we began to talk about overproduction. I remember when I first began to attend your conventions that I was asked to address the Convention upon this subject. For three successive seasons I combatted that idea, until finally I believe the Convention came to the conclusion that it wasn't worth while to hear any more argument on that subject. Because we had increased from 585 carloads in 1880 to over 16,000 in 1890, it was supposed the world could not stand any more fruit. In 1900 we had reached over 60,000 carloads, and in 1902, taking the products of the orchard, vineyard, and garden, it was over 77,000 carloads of ten tons each. This has been taken into the avenues of commerce, the money has come back to this State, and, as I have figured it, it means \$35,000,000 for these products for the year 1902 for this State, and that is more than the value of the exports of all our flour, wheat, barley, hops, wool, and sugar combined. You see the fruit industry means something, Mr. Chairman, to the people of this State, and if it is to live, it means a great deal more in the future. We are not increasing our production as rapidly as population is increasing in this country. Besides, we are greatly and constantly enlarging our foreign market for our fruits.

Let me say a word to the raisin-growers here. What was the condition of the world with regard to raisins before we began to grow them here in California? They were all produced in Spain and the countries surrounding the Mediterranean basin, principally south of the Mediterranean. They were brought into this country under a tariff not particularly high, because there seemed to be no necessity for protection. We got our raisins from abroad, and all the people of the globe

got their raisins from the same regions. The raisin-growing regions of Europe have not extended. They are the same as they have been for centuries. Now, we went into the raisin business and we extended it in that remarkable way which we have of extending any industry which we take hold of with energy, and when it became important that we should take care of our tariff I had an opportunity to go to Washington with a committee from this city—Dr. Rowell and Colonel Forsyth—and we made a fight for you before the Dingley committee which resulted in the present tariff upon the raisin. We showed the committee that prior to the production of raisins in California we had been importing into this country quite as many raisins as we were then producing. There had been some years when we had imported into this country more raisins than we had up to that time produced in this country, and after our raisins had begun to reach the markets of the East the importations began to fall off, until now there are practically no importations of raisins into the United States. We have the market, but we are not to-day producing a great deal more than in former years when people paid 15, 20, or 25 cents a pound for them. I haven't the figures with me now, but my recollection is that there were years when we imported as many as 83,000,000 pounds of raisins, and that was a good many years ago, when the population of this country was not more than perhaps two-thirds of what it is now.

Now, the truth about the fruit industry can not be comprehended and thoroughly understood by taking examples of failures any more than the condition of any other business can be shown by examples of failures. It seemed to me, when I came in here, that this Convention, for a moment at least, had resolved itself into a convention of fruit-destroyers, rather than a convention of fruit-growers. What is the true function of our Convention? Is it to assemble for the purpose of discouraging the growth of the business in which we are engaged? Should we meet together to demonstrate that we ought to all go out of business, and that our nurseries should be destroyed; to say to the people abroad that, while we have these great natural advantages—unparalleled in the world—we are not to utilize them?

If it is not fruit-growing, what inducement have we to offer the immigrant coming here to make this State his home? We have the dairy interest, it is true. We have the wonderful productions resulting from irrigation of these plains, which may be brought to great perfection here and in enormous quantities. The dairy interest may be very greatly extended, but suppose everybody goes into growing alfalfa and making butter and cheese? How long will it take to stock the home market with your butter, and then what condition are we in, shipping butter to New York City, for instance, or to Chicago, right in the midst of the great dairying interest of the East and West and North-

west? No; we must hold to diversification. Go on with your alfalfa-raising. Sometimes it may be that there is more profit in alfalfa than there is in fruit. I saw in a paper some months ago that I had taken out peach trees and sowed alfalfa on the land. That is true, but the bare statement of that fact does not show that raising peaches is not profitable in that locality. I happened to be swindled, as to variety, in a lot of peach trees. When they came to bearing I had peaches almost as worthless as seedlings, and I took up the trees, and as I wanted alfalfa I sowed it, and I have been quoted as an example of the fruit-growers of this country and this State who were going out of the business of fruit-growing.

On motion, a vote of thanks was tendered General Chipman.

NEEDED HORTICULTURAL LEGISLATION.

By HON. A. M. DREW, OF FRESNO.

The right of the people to make rules and regulations for the control and management of the affairs of individuals, as well as of the affairs of the public generally, I presume will not be questioned; neither will the necessity for such rules and regulations in relation to the fruit industry of California be questioned. Such need usually increases in like ratio with the growth of an industry.

In the early days of our State, when the miner was content to labor with the pick and pan, the rocker and the longtom, the question of rules and regulations controlling that industry was left entirely to the local community; but later, when the same miner became dissatisfied with this slow process and began to tear down the mountains with the hydraulic monitor and to send those mountains by the rivers to the valley, then the people arose and said, "So far shalt thou go and no farther."

When the fruit industry of our State was in its infancy and the supply was insufficient to meet the demand there was little need of rules or regulations to control the production and marketing of the crop, but now, with the great quantity produced and its enormous value, it has taken front rank among our industries and has become the foundation of our material growth and prosperity. With its 36,000 carloads of oranges, 4,600 carloads of raisins, and about 60,000 carloads of other orchard and vineyard products, making a total of nearly 100,000 carloads, representing a value in excess of the gold of our mines, it warrants and demands the careful attention of the best minds of our State that it may be protected, not injured; advanced, not retarded; increased, not diminished. That the legislation already enacted for the control of this industry has been of valuable assistance to it goes

without saying. Our State horticultural bureau has been of incalculable value and is now doing excellent work, but it is circumscribed in power and therefore limited in usefulness.

That we may the better understand what is needed, let us in a few lines review the legislation that is now in existence. The Act of 1883 provided for a State Board of Horticulture, for the districting of the State, the appointment of the members of that body, and defined the duties thereof, which duties are: (1) To receive and manage donations; (2) To meet semi-annually; (3) To appoint instructors, without compensation; (4) To open and maintain an office, and provide rules and regulations therefor. Which Act, with the several amendments thereto, is the present law. The work of this board has been of untold benefit to the fruit industry in the diffusion of information, and in the general assistance rendered to the fruit-grower the results have largely exceeded the cost. But as this law was enacted when the fruit industry was in its infancy, it does not at the present time meet the demands.

The Act of 1897 provided for County Boards of Horticulture and defined the duties of said boards, which are: (1) To inspect, when it shall be deemed necessary; (2) To declare nursery stock or individual premises a public nuisance; (3) To give notice to clean up or abate the nuisance; (4) To abate the nuisance if not done by the owner, charging the cost to him. This was also a step in the right direction, and where the law has been properly applied and enforced much good has been accomplished.

The Act of 1883 is general in character, is intended to be and is merely supervisory and educational. The Act of 1897 is intended to provide a means whereby each county may improve its sanitary condition and protect itself from its neighbors.

The Act of 1899 provides a means whereby our State Board of Horticulture may protect us against foreigners; that is, prevent the shipment of infested stock into our State.

The question now is, "What changes should be made in order to make more effective our present legislation?"

Our laws should be amended to provide:

1st. That the State Board of Horticulture shall have general control of local commissioners; that the county horticultural commissioner or commissioners shall be appointed upon the recommendation of a State or local board, our State University, or some other competent authority. The law of 1897 should be amended reducing the county horticultural commissioners from three to one; that one member should be required to have some knowledge of the business in which he is engaged; he should at least be able to recognize a cutworm from a tapeworm, a *Cimex lectularius* from a *Blissus leucoptarous*, and a codling-moth from a coddled politician; he should be appointed because of his knowledge

of the industry which he is to supervise and the pests to that industry upon which he is to wage war, and not because he has done political work in the election of some county officer. It may not be possible in every instance to obtain thoroughly qualified men to fill this position, and in order to prepare for the education of young men capable of filling this responsible office, the law should provide that experience should be a stepping-stone—that is, that a young man might be taken and educated in this line of work, receiving for his first year a nominal compensation, and increasing the same as he becomes more efficient. In this way we could educate or bring about a thoroughly competent class of men who would be prepared to cope with the difficulties that confront us. To these specially prepared men I would apply the civil service rules to protect them against the political changes in the appointing power.

2d. Nursery stock should be placed under strict quarantine regulations. Every person growing trees and plants for sale should be required, before placing his product upon the market, to procure a certificate of health from a properly qualified horticultural commissioner, showing that the stock he is offering, or is about to offer, for sale, is free and clear of disease and insect pests. If this was required and strictly enforced the State would not be flooded with such insect pests as the San José scale, as it was a few years ago.

3d. I would also provide for county horticultural boards of five or more, who should serve without compensation and who should be selected by the fruit-growers of the county from their own membership. Each board should meet at least once a year, and prior to the State Fruit-Growers' Convention with the fruit-growers of the county; the object being to bring about concerted action in each community with the State Board; also to afford a direct means for the dissemination of information.

Eternal vigilance is the price we must pay for the protection of this industry, and without this eternal vigilance we can not succeed. This may only be brought about by strict rules and regulations controlling its management.

If I might be permitted to suggest, I think it would be well for this State Fruit-Growers' Convention to appoint a legislative committee, consisting of prominent fruit-growers throughout the State, who shall prepare and submit to the next Legislature proposed legislation which shall be deemed for the best interests of the fruit industry. Laws so prepared and proposed will come nearer meeting the requirements of the industry than will the heterogeneous mass of proposed legislation that is biennially dumped upon the Legislature.

MR. DREW. Allow me to add just a few words. I regret that I could not have been here during the sessions of your Convention, but

it has not been possible. Fruit-growing is an industry in which I am particularly interested. I came to this State, Sacramento County, twenty-six years ago, and stayed there about a year. I was then somewhat younger than I am now, and was engaged in teaching school. It was in the vine district of that county and there were some beautiful vineyards in the district, and that year wine and table grapes sold at a very low price, the former as low as \$6 or \$8 a ton. I returned to that district the following year, and found that from several vineyards the vines had been removed. I remember one beautiful vineyard of eighty acres in particular where that had been done, and I asked why it was. The owner said that it was on account of overproduction, that he could not get any price for his grapes, and therefore had pulled up his vines and was going to sow the land to wheat. That was twenty-six years ago, and, as General Chipman said, we have heard of overproduction ever since. Fresno then had the Eisen vineyard of one hundred and sixty acres, the only vineyard in the county. I came here in 1878, and since that time have seen the acreage in vines in this county increase to seventy-eight thousand acres, and we are not any nearer overproduction to-day than when we had but one hundred and sixty acres of vines in Fresno County. We can double our fruit-producing acreage in California in the next twenty years and not exceed the demand for our fruit in the United States alone. However, there is one thing which it seems we do forget; that is, that we are producing luxuries and not absolute necessities. We must get this product to the people, we must take it to the consumer, and must not think, because we sit in our offices and have put a price upon the product and the people do not take it at that price, that we are therefore overproducing. This is not the fact. Take the breakfast foods which are put upon the market; they are advertised upon every fence in the United States, and the result is an enormous consumption of them. The price is put upon every package, and the putting of the price upon the packages of seeded raisins was the best thing that was ever done for the producer and consumer thereof in the way of marketing them, and we certainly ought to prevent, if possible, this product from selling here at home for 35 cents a pound, when the producer only receives 10 or 15 cents a pound for the same raisins. When we put this product into the consumers' hands at a reasonable price, we will find that the production will not meet the demands of the consumers, that there will be a demand for every pound of fruit we can produce.

FUTURE OF THE FIG INDUSTRY.

By GEORGE C. ROEDING, OF FRESNO.

Fig-growing in California took its inception on a plane which might truthfully be called unique for an industry that gives promise of developing into one of such magnitude. Long before California had the remotest prospect of becoming a factor in the horticultural world, figs were planted by the padres in their missions, but only one here and there, more for the purpose of supplying the table with fresh fruit and for the ample shade given by the trees, than with any other object in view.

The first apparent interest in fig culture as a commercial proposition was awakened when the San Francisco Bulletin Company made its first importation of fig cuttings from Smyrna in 1880, followed by another shipment a few years later. As is well known, these trees were widely distributed throughout the State; but as all the fruit which formed, dropped off when quite small, never reaching maturity, fruit-growers came to the conclusion that it was a useless waste of time to cultivate a fruit not adapted to California conditions, and the trees were either dug up or were neglected and allowed to grow at their own sweet will.

In 1884 renewed interest was taken in fig-growing. A fig said to have been imported by the late W. B. West, of Stockton, one of the leading nurserymen in the earlier days of California, was beginning to attract attention. It was claimed for this fig that it possessed all the virtues of the Smyrna fig, and trees were very extensively planted throughout the State, but more largely in the Fresno district of the San Joaquin Valley, where they were used as border trees, and for aligning the avenues of the Muscat vineyards; very few being planted in orchard form. When the demand for the trees was at its height, it was found that they were not of recent introduction, for trees twenty-five years old were discovered growing at Knight's Ferry, Stanislaus County. The fruit when dried was apparently superior to the ordinary varieties of figs; its virtues were highly extolled by the nurserymen, and in consequence of their recommendation, which was sincere, for they had the fruit to exhibit (and it was apparently of good quality), the trees were planted not only in California, but also in Arizona and Florida. It was conceded later on by fig-growers that this fig was not equal in flavor and fine texture of skin to the imported Smyrna fig. Still it was thought that these shortcomings were largely due to a lack of experience in handling rather than to any other cause. After these trees came into bearing, no matter what processing the fruit received, no improvement in quality was shown. The interest which had been so keen to begin

with languished, and the figs were allowed to drop to the ground and go to waste, or were fed to the hogs, and they not only relished them keenly, but fattened on them as well.

Meanwhile, F. Roeding, having concluded that there was a future for the industry, decided to send one of his foremen to Smyrna, for the purpose of investigating the subject of Smyrna fig culture on the spot, and also to secure cuttings of the variety from which the finest dried figs were exported.

The successful solution of the problem, in connection with the production of the Smyrna fig in California, is a subject familiar to all of our horticulturists, so it will not be necessary to recapitulate the facts, which have so often been presented.

It was not until 1892, when Seropian Bros., of Fresno, started to pack the Adriatic figs, in a small but commercial way, their output in the first year being in the neighborhood of 10,000 ten-pound boxes, that the industry in California first received commercial notice. The price of 4 cents per pound had the immediate effect of stimulating more planting, and also caused many growers to give better care and attention to their trees than they had done before. The inferiority of the Adriatic figs was a matter of comment among Eastern jobbers, but nevertheless there was a demand for a cheap fig to fill in the gap before the Smyrna figs were received, and as the Adriatic figs were retailed at a much lower figure, a regular trade for them has been established. In 1896, the output by this one firm alone was in the neighborhood of 60,000 ten-pound boxes. The method of packing the figs in layers had been followed up to this time, in imitation of the Smyrna pack, although the character of the work was far inferior. In the same season a novel idea was adopted by a member of this firm. Wooden forms were made, divided into four or five compartments, each form, when filled with figs, holding a pound of fruit. These bricks, as they are known to the trade, were then wrapped in waxed paper, and afterward tied with ribbon, and then packed ten in a box. The trade evidently appreciated this style of package, for, within a few years, it practically superseded the old layer style. A dealer knew what he was selling to the customer, and was relieved of the necessity of weighing the figs and getting his fingers sticky at the same time.

In the natural course of events, other packers engaged in the fig business, and in the year 1897 the combined pack of the four firms in Fresno alone was not far from 1,200 tons, or 240,000 ten-pound boxes. The year 1898 was the banner year for the Adriatic fig, the Smyrna fig crop having been seriously curtailed by a tremendous freeze in the fig district of Smyrna, which not only injured the trees, but destroyed the Capri-fig as well, so that the crop was two-thirds short. The demand for the Adriatic figs on this account was unprecedented. Fully 2,000 tons were

packed and shipped, selling readily at higher prices than they had ever brought before, or since.

There has been a gradual increase in the output of the Adriatic figs since the year 1898, although at no time have the shipments been more than 2,500 tons annually. At least seven-eighths of the Adriatic figs packed have been shipped from Fresno. Strange as it may seem, still it is an actual fact that very few orchardists cure their own crops. Most of the crops are sold on the trees, and in many cases the prospective crops are sold in the winter months before there is any indication of what the crop will be. The Slavonians and Armenians, who are engaged in this line of business, pay so much a tree for the crop, the price being determined by the size of the trees and the quality of the figs from a certain orchard or district, their knowledge of such matters being quite accurate. The handling and curing of the crops are entirely in their hands.

During these years when the Adriatics were selling at such profitable prices, the only Smyrna fig orchard in California was cultivated and cared for by the writer without bringing any returns. At times the task appeared to be a hopeless one, and the temptation to dig up the orchard (grafting in those years had never been satisfactory, very few of the scions growing) was very great. Fully realizing, however, that the success of the undertaking hinged on the fact of establishing the little fig wasp, *Blastophaga grossorum*, I proceeded from year to year to import the insect from Smyrna and other places, but without success. My failures were largely due to the fact of my not being able to secure the services of a competent man to make shipments of the insects at different seasons of the year to enable me to determine in what stage of their existence they would carry through successfully. Several times I tried to interest Hon. J. Sterling Morton, United States Secretary of Agriculture, in this subject, but all my efforts met with no response, and it was not until 1898, when the California State Board of Trade addressed a letter to Hon. James A. Wilson, United States Secretary of Agriculture, which met with an immediate response, that active steps were taken to introduce the little wasp which was to play such an important part in the future of the fig industry in the New World.

The interest manifested in this subject by Mr. W. T. Swingle, Agricultural Explorer, and Dr. L. O. Howard, Chief of the Division of Entomology, both of the United States Department of Agriculture, is well known. The following year after the insect had been established, Dr. Howard sent a special agent, Mr. E. A. Schwarz, to make a thorough study of the life history of the little wasp. Mr. Schwarz devoted six months of careful study to the matter, and his investigations were fully set forth in a treatise written by Dr. Howard for the yearbook of the United States Department of Agriculture in 1901. Mr. Swingle has not

lost sight of the importance of fig culture, and in his recent travels has been collecting Caprifigs from all the countries, which he visited, bordering on the Mediterranean. Many of these trees, which are now growing in the greenhouses in Washington, will be forwarded next year to California for trial, and if they thrive as well as the other varieties of Caprifigs which have been introduced, new and interesting developments in connection with this subject are in store for us.

The year 1900 marked a new era in the fig industry of California. In that season the first Smyrna figs were produced, being six tons of dried figs. In 1901, twenty-five tons were harvested, in 1902 thirty-eight tons, and this year the crop increased to sixty-five tons. Such success, so closely following the establishment of the wasp, should have convinced the most skeptical that the business of growing the "true commercial fig" in California was firmly established.

It is not necessary for me to emphasize the fact that anything new and outside of that which people are accustomed to, is beset with difficulties, and this has been amply illustrated in the fig business. In the first place, it was predicted by the "know alls" that the bugs would die during the first cold snap that was experienced. When this prediction was not verified, it was claimed that the Smyrna figs would not bear like the Adriatics, and some of my solicitous friends even went so far as to credit me with scientific knowledge (one thing I am sorry to say I do not possess), saying that it would be useless for any one else to engage in this business on account of the many complications in connection with it. The results thus far obtained in growing the Smyrna fig in California ought to set at rest, once and for all, the pessimistic reports which have been circulated.

During the past season a careful and accurate account was kept of the labor of distributing the Profichi, or June crop of Caprifigs. Over 200,000 of these figs were distributed in our orchard, at an expense of \$1.15 per acre. More figs were really distributed than necessary, but having a good supply on hand, it was concluded best to distribute them. This, then, is the only additional expense in connection with the growing of the "true commercial fig," and it is such a small matter that it is not worthy of consideration.

The drying and handling of the Smyrna fig, or "Calimyrna," as we have designated the "true fig of commerce," to distinguish it from the other Smyrna varieties, cost considerably less than the drying of the White Adriatics.

The opening price for dried Adriatics this season was $3\frac{1}{2}$ cents per pound, an inflated price by the way, brought about by competition among the local packers, and not warranted by the market price of the packed goods. This price has steadily declined, until to-day figs of this variety can be bought at $1\frac{1}{4}$ cents a pound, with practically no

market justifying this price. Calimyrna figs sold at 6 cents per pound delivered in the sweat-box. I do not wish to infer that they will always bring this price. They will, however, always have a value in the commercial world, based on the law of supply and demand, with many factors in their favor. Deliveries can be made a month earlier; and our goods will be put up with more care, will be cleaner, and last but not least, they will be packed in attractive packages, all of which will tend to give them the lead.

It must be apparent to the most cursory observer that the success which California has attained in fruit-growing is directly attributable to the fact of her taking the best of certain fruits grown in the Old World, and under our more favorable climatic conditions and improved methods of handling and packing, creating a demand which has become permanent.

Individual success in growing figs, or any other variety of fruit, can only be accomplished by starting with the right variety. How much better it would have been for the citrus business of California if the Australian Navel had never been introduced and mixed with the genuine Washington Navel. There is hardly an old established orchard which has not more or less mixtures in it. These oranges naturally drift into the market, and their inferiority detracts from the value of the true Navel, causing annoyance and loss to packer and grower alike.

The same state of affairs is liable to arise in the growing of figs, unless growers exercise proper precautions. It is an unfortunate fact that the earlier importations of Smyrna fig cuttings into California have been found to be badly mixed. No less than four varieties have been found growing on the Vina Ranch alone. All of this would indicate that the cuttings sent from Smyrna were most likely taken from a fig garden (the name applied to all fig orchards in Asia Minor) started from seed, otherwise there could not have been so many varieties among the trees still to be found growing in California. In my travels through the fig districts of Asia Minor, I took particular pains to inspect a number of orchards, and it was only in rare instances that I found any variety outside of the Lop Injir, which is identical with the variety which has been designated as the "Calimyrna" in California. Occasionally a Kassaba was found growing among the Lop Injir figs, but very few of any other varieties, with which I was familiar, were to be seen.

That the Smyrna fig will not come true from seed is exemplified by the old orchard of seedlings at Loomis, Placer County, planted by Mr. E. W. Maslin in 1885, from seeds taken from the finest of Smyrna figs which could be purchased in the New York market. After Mr. Maslin sold his place the orchard was neglected, and for fifteen years it received no care; still the trees lived, many of them making a good growth. It

was not until the wasp was established in this orchard from a consignment of insects sent from Fresno to Mr. Mazel, the present owner, that attention was attracted to it by the endless number of varieties it contained. Several Caprifigs were also found growing among the seedlings. The hopelessness of the task of establishing a commercial fig orchard from Smyrna fig seeds is therefore apparent at a glance.

No class of fruit can be put to such a variety of uses as the fig. It is exceedingly palatable in the fresh state; it can be canned, pickled, preserved, crystallized, and as a dried product it excels every other fruit, being the only one which is palatable without some previous preparation. Fig pulp is extensively used in the manufacture of crackers, also for making strawberry and raspberry jams. Fortunately for the consumer, no deleterious effects result from this adulteration. Even coffee is made from figs, having properties said to be superior to those of the coffee bean.

No tree is freer from disease or will thrive under so many adverse conditions and adapt itself to such a variety of soils and still produce good crops. With the right variety to start with, there is every reason to believe that fig-growing in California promises to be one of its remunerative industries.

If steps are taken promptly to graft all the Adriatic varieties of figs into the Calimyrna, it will only be a question of a few years when California will be shipping fully as many tons of this variety as she is of Adriatics to-day.

The Smyrna fig has been cultivated only in a limited way in California outside of Fresno County, but wherever found it has done well. Of course there is more than one variety of Smyrna fig. I have five named varieties which I received under names from Smyrna; and in addition to these there are four or five individual varieties, individual trees which are entirely distinct from the "true fig of commerce." None of the other varieties dry or make as fine a fig as the fig of commerce. The Adriatic variety belongs to an entirely different family. It has what is known as mule flowers. You will occasionally find, when the wasp enters the fig, that it will fertilize a few of the flowers, but, as far as changing the general character of the fig is concerned, or preventing the fig from souring, there is no change. We have Adriatic figs, particularly the White Adriatic, immediately adjoining the Calimyrnas, and seventy-five per cent of the Adriatics will be sour while it is almost impossible to find a sour Smyrna fig.

THE WALNUT, AND ITS COMMERCIAL PROSPECTS.

BY FRANK E. KELLOGG, OF GOLETA.

The English walnut is a native of Persia. From its native habitat it has been transplanted into many of the countries of Europe, and finally found its way to both North and South America. It is supposed to have been introduced into California by the Franciscan monks during the establishment of the missions, in 1769.

The first plantings outside of the missions were made in San Diego in 1843, by the late Colonel J. J. Warner, and in Napa Valley midway between St. Helena and Calistoga, in 1848, by my father, the late F. E. Kellogg, Sr.

But until recently the industry has been one of very tardy growth. Although the plantings in the northern and southern parts of the State began almost simultaneously, owing to more favorable climatic conditions the southern part has far outstripped the northern, insomuch that the southern counties are to-day almost the sole producers.

And even in southern California few localities possess the proper climatic requirements. The interior valleys are too hot and dry in summer and too frosty in winter, while much of the coast region is too raw and windy. The best walnut-growing districts are those parts of southern California which are sheltered by the mountains from the hot winds of the interior, and which are moistened by occasional warm summer fogs.

These conditions seem to be most perfectly met in the counties of Santa Barbara, Ventura, Los Angeles, and Orange. These four counties constitute the most important walnut-growing region on the earth to-day, exceeding all others both in the quality and in the quantity of nuts produced.

The soil best adapted to walnut-growing is a deep, sandy loam containing a slight admixture of adobe, which has no underlying hardpan, and where the surface water is from 10 to 25 feet from the surface in the dry season of the year. Where the average annual rainfall reaches 17 or 18 inches, no irrigation is required; but where the rainfall is much less than this, irrigation is necessary.

The walnut tree requires no pruning, except the removal of the lower branches which interfere with cultivation; also, any dead branches should be removed.

In respect to cultivation, the walnut should be treated the same as any of our common orchard trees. Thorough cultivation should be the rule.

There are two principal varieties of walnuts, known respectively as "soft-shell" and "hard-shell." The former is the more thrifty, bears

the younger, matures the nuts earlier in the season, and produces the more abundantly; the nuts are more easily harvested, look the better, and command the higher price.

Nearly all the orchards now in bearing are seedling trees; but the more recent plantings are largely of grafted or budded stock.

The most serious menace to the industry is what is commonly known as "walnut blight." It is a bacterial disease, for which no efficient remedy has yet been discovered. It does not seriously affect the growth or vigor of the tree, but manifests itself chiefly in the destruction of the nuts in the early stages of their growth. In the affected orchards it manifests itself from year to year with greatly varying severity; in some seasons the destruction being very slight, and in other seasons reaching as high as fifty per cent of the crop. Prof. Newton B. Pierce, the Government pathologist located at Santa Ana, is devoting much time to the study of the disease, and all walnut-growers are anxiously looking for a favorable report from him. To encourage a widespread study of the disease and search for a remedy, the walnut-growers of southern California, in their organized capacity, have offered a reward of \$20,000 to any person who will produce an effectual remedy. Any one desiring to know the exact conditions on which the reward will be paid can obtain full, printed particulars by applying to the secretary of the Walnut-Growers' Executive Committee, Mr. J. A. Montgomery, of Rivera, Los Angeles County.

The harvesting of the walnut is accomplished by simply shaking the trees and picking up the nuts by hand, and costs from \$12 to \$15 per ton.

The marketing of the nuts—which includes the preparation for market, consisting of grading, bleaching, and sacking—is done chiefly by the walnut-growers' associations, of which there are ten in number. These associations are incorporated and are strictly co-operative concerns.

Not only are the individual associations co-operative concerns, but these individual associations have united in a co-operative body known as "The Walnut-Growers' Executive Committee," which is composed of the directors of the individual associations. Although the executive committee is not an incorporated body, and theoretically has no stronger bond than the simple word of honor, yet in its actual workings it has been very effectual, and its requirements have been carried out with remarkable fidelity.

The executive committee decides what size of mesh shall be used in the grading of the nuts, thereby securing uniformity in this matter; also, it secures the bags for all the associations, and by thus purchasing in vast quantities gets them much cheaper than otherwise.

But by far the most important prerogative of this committee is the

fixing of prices and determining the conditions under which the nuts shall be sold. A few weeks before the walnut season opens, a meeting of the committee is held for the purpose of making a general agreement. For several consecutive years this general agreement has included the following important provisions:

- (1) That the associations will all sell at the prices to be agreed upon at a later meeting;
- (2) That the agents to be employed shall sell the nuts on a stated commission;
- (3) That when the nuts are loaded on the cars the agent must pay cash down in full for them, and must take all the risks of collecting from the man to whom the sale is made.

Next, and finally, comes the meeting for fixing prices, which occurs on or about the 15th day of September. At this meeting the latest consular reports are read, containing the best possible forecast as to the size and quality of the incoming foreign crop; also, the latest and most reliable information is given concerning market conditions—whether any nuts of the preceding year remain unsold or not, and whether general market conditions are good, or otherwise. And finally, a careful estimate is made of the size of the incoming crop. Then, with all these facts before it, the committee proceeds to fix the price as high as the market will bear.

While the average walnut-grower is shocked at the thought that such wicked institutions as "trusts" and "combines" should be tolerated, he can look with perfect equanimity upon the Walnut-Growers' Executive Committee. After all, our opinions depend a good deal on whose ox is being gored! However, this can be said in defense of the executive committee: That while, under its control, the f. o. b. selling price has steadily advanced from year to year until from about 7 cents per pound in 1897 it has increased to 12½ cents in 1903, the man who eats the nut really pays no more for it now than he did then. What has actually been accomplished is this: The profits of the industry have been diverted from the purses of the speculators to the pockets of the farmers, while the consumer has not suffered at all. Also, the executive committee must be congratulated on the fact that this increase in the f. o. b. selling price has taken place while the output has grown from 414 carloads in 1897, to 825 carloads in 1902, and will probably reach over 1,000 carloads in 1904. We will not estimate the tonnage of 1903, as this is an off year and will probably fall below the output of last season.

If all the growers were members of the associations, a still higher f. o. b. price could be obtained—which, this year, would have amounted, probably, to 2 cents more on the pound, owing to the shortage of the crop. The outside nuts are a prey for the speculator, who, in many

cases, is also the agent for the associations; hence, as he is a buyer, it is perfectly natural for him to advise the fixing of the price low instead of high, so as to make his margin of profit on the purchased nuts as wide as possible. Never until the outside grower joins the associations will the interests of the broker and the producer be identical. Then, and not till then, will they unite to put the price up to the full limit which the market will stand.

Also, if there were no outside growers to take advantage and offer nuts for less than the established price when sales happen to be a little slow, the executive committee would have more confidence in maintaining the prices set and a higher price would be the inevitable result. When the outside grower is eliminated, and not until then, may we hope to get the full market value for our product.

As for the commercial outlook of our industry, it is very encouraging. We have only two competitors of any consequence. The one is Chile, whose nuts are harvested in the month of March and arrive in our market so early that they are all disposed of before ours ripen; and the other competitor is France, whose nuts arrive in our market several weeks later than ours ripen, giving us an opportunity to sell in advance of them. And while we may differ concerning the tariff on manufactured goods, etc., all walnut-growers are convinced that the 4 cents a pound duty on walnuts is a beneficent and righteous regulation. We also have the advantage of our competitors in the fact that our goods are superior in quality to theirs.

There is but little danger of overproduction, as the demand seems to be increasing more rapidly than the supply; this will probably continue to be true, owing to the limited area adapted to walnut culture.

As to the profitableness of the industry: We are acquainted with a few orchards that, in normal years, produced a ton of nuts per acre. At present prices, such an orchard will net the owner in the neighborhood of \$200 per acre.

MR. HARTRANFT. Mr. Chairman, I wonder if Mr. Kellogg is not asking for too much when he asks anything more than 12½ cents for walnuts? I wonder if he is not expecting too much of marketing methods?

MR. KELLOGG. Mr. President, there is a price beyond which we can not go, and that is the price which market and crop conditions will sustain, and we want to get all that those market and crop conditions will allow. If we go beyond that we do something that is in opposition to our own interests.

MR. PHILLIPS. I would like to ask the gentleman if he does not have to wait about eight years before he gets any crop at all?

MR. KELLOGG. No, sir. If you plant two-year-old trees, or three-

year-old walnut trees from the nursery, they come into profitable bearing in six years. During those six years you can raise any quantity of squashes, beans, etc., in your orchard, so that you do not lose the use of your land.

VICE-PRESIDENT McINTOSH. We will now listen to the paper by Major Berry, of Yolo County, on "Citrus Fruits in the Northern Counties." (Paper read by the Secretary.) It is a great pleasure to have Mr. Isaac read some of these papers, as he is so distinct and clear in his enunciation.

CITRUS FRUITS IN THE NORTHERN COUNTIES.

By MAJOR C. J. BERRY, OF WOODLAND.

It is now nine years since the San Diego "Union" published an editorial about citrus culture in the counties of Tulare and Fresno. "Ye editor" took occasion to say at that time, "Advertising of the counties mentioned as possessing the climate and soil adapted to the growing of oranges and lemons was a misleading statement, and it would do great harm to the home-seeker" coming to California. He said, "It was well known that oranges and lemons could only be grown in Tulare and Fresno counties by putting blankets over the trees in winter."

The wheel of time has not ceased to revolve between that time, nine years ago, and the present, and in so far as the growing of citrus fruits is concerned in the counties north of the Tehachapi, one need but look over the advertisements of any of them and he will find that even up to Shasta the golden fruit of the Hesperides is by no means forgotten to be enumerated as one of the attractive features of their soil productions, and as a matter of fact, oranges are grown in a more or less commercial way throughout all of our northern counties.

As for soils which are adapted to the culture of the orange, there is throughout the "big" Sacramento Valley any kind and all kinds of soils, and if one desires to grow oranges, and knows how, he need not feel at all worried on the subject of soils. There is an abundance of land adapted to this industry which he can procure at one tenth the price for which it can be procured in southern California. Moreover, water is abundant and procurable at a minimum cost in comparison with what the orange-grower of Riverside County must pay for his irrigation.

Let us look at the present development of orange-growing in our northern counties and consider if it is possible to select varieties which may become distinctly adapted to our northern counties, as the Navel orange seems to be to the Redlands district. A careful study of the liability to or the exemption of different varieties from various diseases,

and the introduction of new varieties or their production by crossing and selection, thus producing both a tree and fruit adapted to the climatic and soil conditions of our northern counties, may well engage our special attention. Such lines of research are too important to be neglected. While the yearly output of our orange groves has reached enormous proportions, and the promise in the near future is for a still greater yield, the discovery of a stock or variety which would be blight-resistant would be worth millions, and a stock that could withstand the influence causing an ordinary orange to have "die-backs" would be of great value. The influence of climatic and soil conditions on the orange and other citrus fruits is a subject demanding study. This can only be done by trained men, provided with proper equipments. The extreme variability of soils in adjoining fields is a fact well known in California.

The general relation of climate to the orange tree should also be studied. Most important of all is the study of the influence of fertilizing on the health and fruitfulness of the tree. The time of application, the amount, and the kind of different soils, stock, and varieties, and the effects of various fertilizers on amount, size, and quality of the production—all such questions certainly need answering. With fruit trees like the orange, proper investigation of all such matters as soil, climate, fertilizer, stock, and varieties would require a great deal of patience, more, in fact, than the average soil-tiller can give, even admitting he was capable. With cereals and other annual plants, a single season gives results of positive value, but not so with the orange. Therefore, investigation of the kind mentioned should be begun and continued by the Government. This work, conducted in a proper manner, would bring about an increase in the production of all subtropical fruits, which would be a full compensation for the expense, and if nothing more be accomplished, there would be an awakening of interest in this line of fruit culture commensurate with its importance.

Orange-growing in the counties of the Sacramento Valley is no longer an experiment, but it must be admitted that many improvements could be made which would doubtless bring about better results in this industry, so attractive to the home-seeker immigrating from the East.

One thing is certain—that fine fruits can only be had from rich soils, and it goes without saying that very large areas of the northern counties do possess the richest soils of the whole State. This fact in itself must sooner or later have an effect upon the orange industry, the richness of the soils precluding the necessity of using fertilizers for many years to come.

So, to sum the matter up, where fruits can be grown the cheapest and equally as good as elsewhere, there the industry will undoubtedly be pursued, and these conditions prevail in the northern counties—plenty of rich lands at minimum prices per acre, abundance of cheap water for

irrigation, temperature during the coldest winters not so severe as recorded in southern California—so that in the end one can look forward to a time in the near future when orange-growing in our northern counties will assume much larger proportions than it is doing at present.

The growing of lemons is quite a different matter from the growing of oranges in the counties north of the southern counties of the San Joaquin Valley. Perhaps the easiest way to express one's views will be the shortest; therefore, I shall close this paper by saying: Don't try it.

REPORT OF THE COMMITTEE ON LABOR.

SAN FRANCISCO, December 7, 1903.

To the State Fruit-Growers' Convention, Fresno, California,

GENTLEMEN: Your committee appointed at the Fruit-Growers' Convention in San Francisco, December, 1902, to secure orchard help from the agricultural districts of the Eastern States, begs leave to submit the following report:

Twelve of the fifteen members of the committee met in Paso Robles in a three days' session in December of last year, and effected an organization by electing Mr. H. P. Stabler of Yuba City chairman, and Mr. B. N. Rowley of San Francisco secretary. From the membership of the general committee a permanent organization was effected under the name of the California Employment Committee. The following executive committee of seven members was appointed: T. H. Ramsay, Red Bluff; G. H. Hecke, Woodland; L. F. Graham, San José; A. D. Bishop, Orange; B. E. Hutchinson, Fowler; B. N. Rowley, San Francisco; and H. P. Stabler, Yuba City.

In order to accomplish its purpose, the committee decided that a number of representative fruit-growers should be sent to the agricultural districts of the Eastern States to encourage young men and men with families to come to the fruit districts of California and secure employment in harvesting the crops.

Both the Southern Pacific and Santa Fé Railroad Companies extended every courtesy to our committee and materially assisted us in our work. Mr. E. O. McCormick and Mr. James Horsburgh, Jr., of the Passenger Department of the Southern Pacific Company, extended many favors to the committee, and it was through their courtesies that we have been able to make the good showing that this report sets forth.

The California Promotion Committee, through its efficient executive officer, Mr. Rufus P. Jennings, offered to thoroughly co-operate with the California Employment Committee in prosecuting our work in the Eastern States. The Promotion Committee placed its office at our disposal, supplied our committee with a clerk, stenographers, postage, and stationery, also subscribing to our fund an amount equal to the amount

raised by our committee. Our Eastern operations were carried on entirely under the direction of the Promotion Committee. Representatives traveled under the auspices of, and reported to, that committee.

The State Board of Trade and other organizations were equally courteous in offering to assist the committee in its enterprise.

On February 3, 1903, we sent out four travelers to the Eastern States equipped with two stereopticons and complete outfits of slides descriptive of California industries and points of interest. A large supply of descriptive literature was also taken. Mr. George W. Pierce of Davisville and Mr. George D. Lorenz of Sacramento, of this party, spent thirty days in the States of Iowa, Illinois, and Nebraska lecturing and distributing literature. The experience of these two gentlemen showed us that the people of the States named felt a great interest in California. Ten lectures were given, with audiences ranging from 400 to 1,500 people.

Messrs. F. W. and E. J. Crandall of San José visited the States of Kansas, Nebraska, and Michigan, reporting the same interest among the people in hearing of California. Mr. F. W. Crandall also spent a month in England and on the continent of Europe.

H. P. Stice and H. C. Swain of Red Bluff, Tehama County, left on the 4th of March for a thirty days' trip to Ohio and Illinois. These gentlemen were not equipped with stereopticons, nor did they deliver lectures, but were liberally supplied with literature, which they distributed in the agricultural districts of the States visited.

On the 15th of April, Mr. R. C. Kells of Yuba City and Mr. W. H. Murray of San Francisco left for the East as missionaries in our cause. As the former travelers had confined their work to the Middle West, it was deemed advisable to make some inquiry in the far Eastern district of the United States. Mr. Kells was therefore directed to go to New Orleans, and from there to Maryland, Delaware, and New Jersey, in order to see what might be accomplished in securing farm help from those States. He was confronted with unfavorable conditions for the success of the enterprise. Fruit-growers and farmers in the Atlantic States were found to be in need of farm help themselves. Mr. Kells was accordingly advised to go to Illinois and Nebraska, where he distributed literature in the agricultural districts.

Mr. W. H. Murray's itinerary differed from that of the former travelers, as he was directed to spend six months in visiting the country districts of the States lying between the Mississippi River and the Atlantic coast. Mr. Murray's past experience in journalism enabled him to secure much publicity for our enterprise in very many newspapers of the Eastern States, which resulted in a large correspondence from people contemplating a trip to California.

Two members of the executive committee were the last to invade the

Eastern field, Messrs. L. F. Graham of San José and B. E. Hutchinson of Fowler. Mr. Graham covered a large territory in his travels and made investigations at the Barge Office in New York which were of much interest and value to the committee. His report contains many facts and figures accompanied by official documents, and is worthy of the attention of all fruit-growers interested in this subject.

Mr. Hutchinson spent many weeks in Ohio and Michigan, and was abundantly supplied with California literature. He was accompanied by his wife, and they took advantage of every opportunity to present to the Eastern people the possibilities in California for young men and men with families from the Eastern agricultural districts.

In order to properly present our plan throughout the Eastern agricultural districts, we prepared a special pamphlet setting forth the needs of the California fruit-growers in the way of labor, and answering questions that might arise in the mind of the intending settler. Something like 100,000 copies of this booklet, which we entitled "Grasp This, Your Opportunity," were judiciously distributed by our travelers, while application blanks for those desiring employment on California fruit orchards and vineyards were also supplied in liberal quantities. In addition, a great deal of California literature was also distributed. Our travelers without exception found the Eastern people much interested in all printed matter descriptive of California and its possibilities.

The reports of these ten travelers now on file in our office show to this committee conclusively that desirable agricultural help is just as scarce in the Eastern States as it is in California. We find the average farmer in the East so much hampered in his business by the scarcity of help that very many are contemplating selling their holdings and coming to California. It is generally recognized in many Eastern States that a small farm in California, managed and worked by the farmer and his family, will return a larger annual revenue than a much larger acreage in the East, and the discomforts of the severe Eastern winters will be unknown in our mild and genial climate. This serious shortage of farm help in the Eastern States was a revelation to our committee, and has induced us to suggest to the fruit-growers of California the advisability of offering special inducements to men with families from agricultural districts of the East to come to our State and assist us in harvesting our crops.

The California Promotion Committee has evolved a plan which is, in the judgment of our committee, thoroughly practicable, and will if adopted almost entirely solve the problem of help in the harvest season. The Promotion Committee has sent circular letters to fruit-growers and farmers in various districts of California, suggesting the advisability of leasing or selling on easy terms five, ten, and fifteen-acre pieces of land to men with families who will agree to assist the fruit-grower and farmer in his harvest, while acquiring homes of their own. The replies to these

circulars have been most favorable to the proposed plan, up to date 26,614 acres of land having been offered for settlement in this manner. The original plan of our committee, which contemplated securing young men from the agricultural districts of the Eastern States to assist fruit-growers in their operations, could only at the best be a temporary solution of the help problem. The young men thus obtained would in all likelihood drift to various parts of the State and would not become permanent residents of any one district.

The plan of securing men with families and locating them in homes of their own is a far better solution of the help problem than any other plan that has been submitted to our committee. In some districts of the State this feature is not entirely novel, as it has been tried in a small way and has proven satisfactory both to the growers and to the home-seekers.

During the year our committee has received from fruit-growers, packers, canners, and others, applications for 9,301 people to work. These requests came from all parts of the State, and have usually been for the months of July, August, September, and October, although in many instances help has been desired for much longer periods, and occasionally for the entire year.

The records of our office show that we have absolutely placed in positions on orchards, vineyards, and fruit-canning factories 917 people from the Eastern States. This result has been accomplished with an outlay of \$3,500. This made the actual expense of placing Eastern people in positions in California less than \$4 per capita. We know of many instances in which people have come to this State and secured positions through the effect of our advertising and the efforts of our travelers, but as their names have not actually gone through our office we do not include them in the number we have placed at work. We therefore believe that the result of our effort has been much larger than our figures show, and we also feel that our work will be productive of much desirable immigration during the coming year and possibly for years to come.

The ten gentlemen who went East at the instance of this committee were supplied with funds for their actual traveling expenses, but devoted their time gratuitously for the good of the cause. We feel that the fruit-growers of California are under many obligations to these gentlemen, who have so well and faithfully worked for our interests in the Eastern States.

Unfortunately, two of our travelers, Mr. Kells and Mr. Murray, were in serious railroad accidents in the East. Mr. Kells was disabled for several days, and his work was seriously interfered with from the result of the accident. Mr. Murray was severely injured, and for a time his recovery seemed improbable. After several weeks in a hospital he was enabled to return home.

The sudden death of Mr. B. N. Rowley, which occurred in his office at San Francisco on the 20th of November, was a shock to the fruit-growers of California and an irreparable loss to our committee. Mr. Rowley has acted as secretary of the committee during the past year, and has been particularly active in furthering the work. His office has always been at the disposal of the committee, and through the columns of his paper, "The California Fruit-Grower," he kept the fruit-growers of the State informed of the progress of our efforts to secure help from the Eastern States.

In our endeavor to secure sufficient help from the Eastern States to harvest our crops, the committee has obtained a great deal of information that will be available in any further campaigns that may be planned for this purpose.

The committee has effected permanent organization for the purpose of continuing the work if the fruit-growers of the State believe the necessity still exists of bringing more people here to assist in harvesting the crops.

All of which is respectfully submitted for your consideration.

H. P. STABLER, Chairman.

GENERAL CHIPMAN. Mr. Chairman, I desire to ask the gentleman a question or two in regard to his report. I want to know whether any of those nine hundred people have remained in this State, or whether they have returned to their homes in the East; whether they were married, and what became of them?

MR. STABLER. I can answer in a general way. They were not all men. There were quite a number of families, and quite a number of them have returned East. They take advantage of the low rates on the railroads to come to California, during the fruit season earning enough money to return home; but our records show that there are still a great many of these people remaining in the State and in permanent positions in California.

MR. CHAIRMAN. I would like to inquire if this committee is to be retained in the employ of the Convention, or is it necessary to make a motion to that effect?

MR. STABLER. Well, I should say that this committee as organized is not a permanent body, and that if, in the judgment of this Convention, a necessity still exists for continuing this line of work, the committee will probably continue it. I would like an expression from this Convention as to whether the necessity still exists.

On motion of Mr. Johnston, seconded by Mr. Stephens, the Convention requested the committee to continue its work.

At this time a recess was taken until 2 o'clock P. M.

AFTERNOON SESSION—FOURTH DAY.

FRIDAY, December 11, 1903.

The Convention was called to order at 2 o'clock P. M. Vice-President McIntosh in the chair.

VICE-PRESIDENT McINTOSH. Members of the Convention, we shall vary the program for the afternoon to the extent of hearing Mr. G. S. Thurman's paper upon "The Growers' Co-operative Agency," a deferred topic. It has been carried over for the past two days. Will the Secretary read it, please? (Paper read by Secretary.)

THE GROWERS' CO-OPERATIVE AGENCY.

BY G. S. THURMAN, OF SAN FRANCISCO.

The Growers' Co-operative Agency was opened in San Francisco June 1, 1902, by the Sacramento River Co-operators, a co-operative body formed under the law of 1895, and was in response to a general and pressing need for relief from many abuses which had grown up among the commission merchants of San Francisco. Returns were not made in accordance with sales, charges were excessive, combinations were formed among the various houses by which they would agree to return a common price regardless of sales, and many other important matters, all of which helped to show the shipper that his only means of relief was by marketing his own goods.

After careful consideration it was decided to organize an agency which would afford every producer in the State who chose to market his goods in San Francisco, an opportunity to join in its support and management, and this opportunity is still open.

From the start the movement met with very decided opposition on the part of the commission merchants of San Francisco. For the first two months the Agency was subject to a boycott by the wholesale houses, which refused to buy from or sell to it; but in spite of this we conducted a successful business, selling our stock to the retail fruit dealers at good prices.

On August 1, 1902, a new move was made; the retailers were told that if they dealt with The Growers' Co-operative Agency they could buy of no other commission house in San Francisco, and this order was enforced in a very systematic manner. That its enforcement was possible was due to the fact that in order to conduct a retail fruit store the dealer must carry a variety of goods which it is impossible for one commission house to supply. For example, bananas are usually imported

in carloads, or in large shipments by steamer, and reaching San Francisco very green must be ripened in a specially prepared room, thus making it a very heavy risk to carry them and therefore extremely difficult for us to supply our customers with bananas. The houses carrying them refused to sell either to us or to our customers. The same illustration would apply to many other classes of fruit. The method employed was to select say six or eight of our customers at a time, and by watching them closely prevent their obtaining all supplies such as we could not furnish, either directly or through an agent. Then when that lot was brought to a proper state of subjection a few more would be selected and the operation repeated. By this means the open accounts with the retailers on our books were reduced from 249 in July, to 7 in November.

In the meantime we had adopted various expedients for disposing of our fruit, and while suffering considerable inconvenience, managed to maintain our house. The growers along the Sacramento River renewed their pledges of loyalty to the movement and offered their money freely to sustain the house. At last the commission merchants, rather than face another season of disastrous competition, proposed a truce and a basis of agreement by which the growers should suffer no disabilities in selling their products in San Francisco, and it was accepted. This was about May 1st of the present year, since which time the Agency has conducted a thoroughly satisfactory and profitable business. It has now no fights on hand, but is most active in striving for the highest efficiency in the conduct of its business, and it needs but the loyal support of the growers who ship to that market to make it a powerful source of protection and profit to the producers of California. As a result of its existence the growers of the Sacramento River have received uniformly higher and more satisfactory returns as compared to market prices on all lines of goods than ever before, not only from the Agency, but also from those houses which are compelled to compete directly with prices as established by its returns. Empty packages have been returned more promptly, and many conditions have been vastly improved as a result of a healthy competition with a house whose interest lies only in the betterment of such conditions for the grower, and securing for him the highest market price for his products.

The Agency has recently been moved from the original location at 503 Front street, which was found entirely too small for its needs, into larger and more convenient quarters at 425, 427, and 429 Front street, where it has splendid facilities for the display and sale of goods, in a situation right in the heart of the commission district. During the time the Agency has been conducted we have been able to secure the services of a thoroughly experienced and able staff of salesmen, book-keepers, etc., which insures prompt and faithful attention to all details.

During the past few years it has been shown that co-operation as applied to the marketing of fruit and produce is a practical proposition and not a dream of theorists. The success of the California Fruit Agency in handling the citrus fruits of southern California, and of the California Fruit Exchange in the northern part of the State, is well known to all growers; but these exchanges deal almost exclusively with the Eastern and shipping trade and do not solve the problem of handling the vast amount of fruit which must be marketed locally. This field is filled, however, by The Growers' Co-operative Agency, and we have only to point to its successful business and the results that have been accomplished during the past season, to convince you that intelligent co-operation will vastly improve the conditions for the producers in the San Francisco market. By reason of selling your products through your own house in San Francisco you have an absolute certainty of honest returns and create a force which, properly handled, will in time obviate many of the disabilities under which shippers to the San Francisco market labor at present. To bring about the most satisfactory condition of affairs, however, we must have organized support from all sections which contribute to that market. We want the rhubarb and other early products from the bay districts, the early berries and apricots, the apples both early and late from various sections, the oranges and lemons from northern and southern citrus belts, persimmons, pomegranates, and all of the many varieties of fruit which are to be found in California from the beginning to the end of the year. This can be accomplished by means of a growers' association in each locality which will participate in the management of the Agency and will market the products of its members through that channel. These associations should be so organized that it will be possible for the management of the Agency in San Francisco to communicate with them quickly (preferably through their officers) in order to be able to hasten or to divert shipments according to the condition of the market. It often happens that there is a keen demand for some particular class of fruit which forces the price up to an abnormal figure; in such a case a compact organization which responds readily and quickly to such a demand will place its fruit first on the market, thus reaping the benefit of the higher price. A glut and the consequent loss may also be prevented by the same means. In all cases the advantage lies with the shipper most closely in touch with the market to which he is shipping, and the advantages of organization in this regard are obvious. Instead of having shrewd speculators take advantage of every sudden rise in the market to buy heavily through their agents in the various localities, thus trading on the neglect of the grower to keep himself informed, we want the grower himself to receive that higher figure, by acting in response to information sent out by his own house, and placing his

products on the market at a time when they can be sold to the best possible advantage.

Another beneficial feature that our past two seasons' work has shown us is the advantage to be gained by the constant influence of the house in pointing out to the shipper the improvements that are necessary in his pack. We must have fruit packed honestly and in accordance with the demands of the market. Our house offers a direct medium of communication between the consumer and the producer, thus making it possible for the one to understand the wants and needs of the other.

With a strong association in each fruit-producing section of the State to insure a continuous supply of all seasonable products, The Growers' Co-operative Agency must become the controlling factor in the San Francisco market. It is our desire, therefore, to devise a plan which will give the shippers of all localities an equal opportunity to share in the benefits to be derived.

The officers of the Agency will gladly afford any desired information, and will assist any locality desiring to organize a local association for supporting the movement.

In the meantime, any one shipping to San Francisco may ship to this Agency and be assured of prompt and honest returns and highest market prices, and may have the satisfaction of feeling that his shipments are lending support to a movement powerful for his protection and profit.

MR. STABLER. Mr. Chairman, and gentlemen of the Convention: A year ago I read a lengthy, if not an exhaustive, paper on the question of "The Fruit-Grower and Orchard Help," and from that essay a committee was appointed, which committee made a lengthy report to you this morning, which report, I am very glad to say, was received by you and commended and the committee duly thanked and all that sort of thing. Now, if I read the paper programmed for me this morning I can only reiterate the points with which you are quite familiar, so I will gain your good will by saying that I will not read the paper; but I am going to say to you that, by invitation, a gentleman is here whom I met the other day in San Francisco and who lives in New York City, and when I found out why he was on this Coast, I invited him to come down here and say a few words to this Convention, and I am going to ask unanimous consent that you will hear Mr. J. D. Barnhill, of New York City.

ADVANTAGES OF ADVERTISING IN FRUIT-GROWING.

By J. D. BARNHILL, OF THE NEW YORK "EVENING POST."

Gentlemen, you have met here to discuss the different ways and means for advantageously growing and placing your products upon the market. You, of course, understand that the main result which you want to attain is to increase the value of your property in every way. This can only be done by having a constant demand for your products, and all efforts along this line are supplementary to the one main factor—that is, the ultimate sale of your products to the consumer.

By creating a permanent and regular demand for an article you aid very materially in overcoming such obstacles as uncertain transportation, and you may be sure that if your cars do not arrive to-day there will be a market for them to-morrow.

This is especially true of such products as raisins, prunes, figs, apples, etc. All of your able efforts toward scientific cultivation of your products amount to nothing, for if they are not in demand you can not sell them. To sell anything of this character you must place it in the hands, as it were, of the housewife, and you can not do this successfully in any other way except by advertising. In this I mean to include packing and labeling your products; and from my observations of the different discussions brought up here, I notice that you have probably overlooked one very important point: you do not advertise properly, if at all. Advertising has been conceded to be the most important factor in successful enterprises of to-day. To illustrate this fact I will cite a few instances.

An obscure chemist discovered that by a certain process of treating grain a marketable article of diet is obtained. He finally interested men who were willing to put up \$20,000 to back his project; yet, when they found that he intended to spend \$8,000 in the manufacture and \$12,000 in advertising his product, they objected very emphatically; but he gained his point, which proved him to be the right man, at the right time, in the right place.

As a result of these enterprises, on every side we see "Force"—in the street cars, on the billboards, in the daily newspapers and magazines. "Force" is applied to everything. Every locality has its "Sunny Jim," with his strenuous principle of vigor and vim.

The result of this has been that the most illogical breakfast food imaginable has reached an almost incredible degree of successful sales. It is estimated that in 1903 the Force Company spent \$950,000 for advertising an article which sells for 10 and 15 cents. In 1902, \$600,000 was spent to advertise "Uneda Biscuit" in packages which sell for 5 cents. In three months the "Cremo" cigars were advertised

to the amount of almost \$300,000, which sold a very inferior cigar to the extent of one million each day; and scores of other industries, too numerous to mention, illustrate the necessity of good advertising.

The human race are creatures of habit, and, therefore, very susceptible to suggestion. Why do the Eastern people use imported olive oil? More generally because their ancestors have done so before there was a California product, and because the present generation has not been educated to the fact that California olive oil exists at all.

For the same reason thousands of people associate raisins with Thanksgiving and Christmas puddings, and look upon oranges as an expensive luxury and an unnecessary article of diet; but when the reading public is brought to realize the fact that these products are more wholesome and cheaper than any other food, they will be used in great quantities.

Suppose that every time you read your daily paper, each time you rode on the street car or looked at a billboard, you should see something like this:

There were some very foolish people living in a village out East,
Who every day imagined they were having a great feast.
They had meat and chops and oysters served with every meal,
Then they blamed the hydrant water for every pain they'd feel.

But now the physician has bought the groceries,
And all the people keep well,
And the change that has come to this village
Is most incredible to tell.
They are listless and dull no longer
From eating indigestible food;
And yet they do not lack variety,
And everything they eat is good.

It was California fruits that did the work—
Will also do the same for you.
Keep this in mind when buying,
And you will find these words are true:
Breakfast, dinner, and supper—
Every meal you should eat this fruit,
Of infinite variety, yet wholesome,
Each palate will find something to suit.

If properly advertised, there is absolutely no reason for there being an overproduction of anything so universally necessary as the products under discussion. Judicious, systematic, and effective advertising will sell every pound of marketable fruit which your State can produce. Let me illustrate how this is done: The housewife discovers, by seeing your advertisement, that prunes, for instance, are much cheaper and she has been in the habit of preparing, and when she goes to the more wholesome and easier to prepare than a great many things which grocery, she not only asks for prunes, but insists on buying the particular brand which she has seen advertised. When the groceryman

finds that there is a demand for an article he immediately requires his jobber to furnish him that article.

Now, right here comes in the subject of proper packing, for, to keep the public interested in the article advertised, that article must at all times be put up in an attractive package, and with no deterioration in quality.

As a further illustration of the practicability of advertising, I will mention a fact of which you are probably already aware: I find that this year there has already been produced about 116,000,000 pounds of raisins. Now suppose that, by advertising, we should raise the price one cent per pound, the amount of profit would be \$1,160,000; and that we spent about one-half that amount, or \$500,000, in properly advertising this product. That amount of money, if judiciously spent, would enable you to place the article before the great volume of reading public of the United States. After paying for your advertising you will readily see that you will have over \$600,000 clear profit.

The discussion of properly advertising a given product is too broad for us to go into details fully; yet I will say that I have in mind in New York City and Philadelphia a score of good advertising agencies which employ the services of the best men which money can buy, and they are in a position to handle your advertising judiciously and effectively, with no cost to you except for the space which you purchase in the different publications, etc., they receiving their profits from the commissions which the publications allow them in the placing of advertisements.

Now, all of these facts which I have mentioned are not something which have been unheard of heretofore, but go to form a great underlying principle of successful enterprise to-day, which has been tested and proven time and time again.

Now, again: It is only a matter of time when you will advertise as I have suggested, and let me insist that you do so at once. I know what I am talking about, and I am going to convince you that what I have said is true, if I have to tell you once, twice, or even the third time.

And now I wish you to understand that I am a disinterested party except that I am anxious to promote the welfare of your industries, and I will say that upon the adoption of the plans outlined in connection with the reforms which you are planning and working for, such as organizing, transportation facilities, and package postal service, the "Evening Post" of New York, which I represent, is anxious to lend its assistance in any way possible, both in its columns and in its advertising pages.

Let us sum up in a few words: To increase property value and prevent overproduction you must have a maximum price for your products; to secure a maximum price, you must create a maximum demand. A

maximum demand can not be assured without advertising, and to advertise properly you must have organization.

On motion, duly seconded, a vote of thanks was tendered to Mr. Barnhill.

HOW CAN WE PRESERVE THE FERTILITY OF OUR ORCHARDS?

BY A. D. BISHOP, OF ORANGE.

This question is becoming one of vital importance, not only as to how it can be done, but also as to how it can be accomplished at a minimum cost or at such a figure as the income from the orchard would make it possible for us to expend for that purpose.

The fruit-consuming power of the people of the country is almost beyond comprehension and is not fully realized by any of us; but it is not the millionaires who consume our products, it is the wage-earners, the people who are in moderate circumstances. If we find a market for the enormous products of the immediate future they must be sold at a price that will put them within reach of all; but if this is done there will be very little left for the producer, after having paid the present extravagant fixed charges taxed by transportation company, box agency, packer, and selling agent. There is scarcely a product of the earth of whatever class that is not held up by some combination exacting a tribute out of all proportion to the service rendered, for we are all aware of the enormous increase in the cost between the producer and the consumer.

The condition confronting us, then, is the production of our fruits with the least possible cost consistent with good business, and as one of the most essential elements of their production is fertilization, it must be done with the least possible cost consistent with the best results, and this can not be accomplished by the use of commercial fertilizers alone. We must, if possible, keep the soils of our orchards up to the standard of fertility of virgin soils, and this can best be done by following the examples set forth in the economics of nature. Science tells us that there are three principal elements necessary for plant growth and which are most likely to be exhausted: potash, nitrogen, and phosphoric acid. To these I will add a fourth, humus, in the absence of which the others will be only slightly available, and plant growth very meager. Chemical analysis has shown that in an average crop of most of our fruit products we take from the soil from forty to eighty pounds of potash per acre, from ten to twenty pounds of phosphoric acid, and from seventeen to seventy-five pounds of nitrogen; but it has not shown how much the per cent of humus is reduced. Experience has shown that clean cultivation in winter, with irrigation and constant summer culti-

vation, without any artificial means being employed to keep up the supply, soon reduces the supply of humus to a minimum, if it does not exhaust it completely. This is shown by the soil becoming compact and lifeless, by its inability to retain moisture, and by its refusal to absorb water when applied. We frequently see irrigation in operation in orchards where the water running out at the lower end of the furrow is about equal in quantity to that started in at the upper end, and where very frequent irrigations were absolutely necessary. But with a good soil, properly treated, irrigation once in two weeks is amply sufficient. I believe that humus, through its mechanical action on the soil, and its chemical action, through the processes that create it, on the mineral fertilizing elements, is equal in value to any if not all of the others. How, then, can it be supplied? By keeping the surface soil well mixed with decaying vegetable matter; and this can be accomplished only in two ways: by liberal applications of the refuse of stables and stock corrals (and while this is not especially rich in nitrogen it is in nitrifying bacteria), and by the growing and plowing-under of green crops. As the supply of stable manure is very limited for the needs of us all, the latter method is the only available means of securing the necessary amount of soil fertilizer. The Eastern farmer has found that by a rotation of crops he obtains much the best results, and at frequent intervals he grows a crop of one of the leguminous plants. We can not practice rotation with our orchards, but we can grow green crops and plow them under. While any crop will furnish humus, we can, by the selection of proper varieties, seemingly grow nitrogen at the same time. It has long been known that the plowing-in of a crop of clover or other leguminous plant materially enriches the land, as shown in succeeding crops; but it is only recently that science has demonstrated that the legumes have, through the agency of minute bacterial organisms in nodules attached to their root systems, the ability to convert the nitrogen of the air, as well as the soil gases, to their use in building up their structure and, on decomposition, leaving this nitrogen in the soil in a more readily available form for the use of other plants. How frequently we see, under natural conditions, the decumbent leguminous plants interspersed with the more stately, thus illustrating that in the vegetable kingdom, as in the animal, the small plants were intended as food for the larger, and thus we have myriads of roots working on the mineral elements and leaving them decomposed as digested food.

As we can not furnish moisture to grow green-manure plants in summer, we must select varieties that grow well in winter. The bean called cowpea, so much used in the Southern States for this purpose, will not do here, as it is more susceptible to cold and wet than corn; but it has made a fine growth with us in summer with only a scant supply of moisture. The common field pea has been most generally

used for this purpose in our orchards, because the seed was easily obtained, but it is certain to be supplanted by something better. Out of fifteen varieties that I have tried for this special purpose one gives promise of being of exceptional value. This is a variety of *Trigonella*, commonly called fenugreek, a plant similar in many of its characteristics to *Medicago*. Peas in soils deficient in nitrogen make a very poor growth the first year unless inoculated with their specific bacteria by scattering some of the soil taken from a field where peas have previously made a good growth; but fenugreek made an extravagant growth the first year, which gave some ground for the belief that bacteria of bur-clover, or some of the other domesticated legumes, had found a congenial home in the roots of the plant. Planting should commence soon after the first of October, but good results can be obtained from seed sown as late as December first. Sow the seed broadcast, and before it has commenced to sprout prepare the land for irrigation, first by furrowing at right angles to the way you wish to run the water, and then ridging the other, or if this can be done on the contour, so much the better. Then by checking at frequent intervals, we will be prepared to furnish moisture in times when the rainfall is deficient and also to thoroughly soak the ground when ready to plow. The practice of furrowing in the direction in which the water flows is objectionable, since it provides a ready means of conveying the rainfall from the land. The use of a cover crop will be found of great benefit in preventing the erosion of the surface during periods of the heavy rains which sometimes come, even in California.

I have been striving for ten years to grow a volunteer crop. Some years this has been fairly successful, both with bur-clover and melilot—two very valuable plants for this purpose; but they were frequently partially and sometimes entirely suppressed by plants less useful but more tenacious of growth, like some of the brome grasses. I now have a very good volunteer crop of fenugreek growing where it was plowed-under last spring. An objection to this crop is that for the seed to properly mature, the plowing will have to be delayed later in the spring than is desirable. While the seed of fenugreek may be a scarce article at present, means would soon be found to supply it if a demand should be created. We may also expect, from the attention being given to this line of investigation by selection, cross-pollination, etc., the development of a class of plants as nitrogen-gatherers better than any we now have, besides furnishing a growth of herbage for the creation of humus not equaled by anything we have at present, although I have harvested seventeen pounds from one square yard of green plants.

The practice of green-manuring will be found very beneficial against the formation of irrigation hardpan, which is caused by the finer particles from the cultivated surface and the soluble salts from the

water being carried down by the water and deposited on the more compact stratum of undisturbed soil. This beneficial action is due to this hardpan being pierced by innumerable fibrous roots and the chemical action of carbonic acid generated in their decomposition.

If, then, we can at once grow nitrogen and humus, there remains to be supplied only the two other principal elements—potash and phosphoric acid. Potash can best be supplied in the form of sulphate, applying from seventy to one hundred pounds per acre immediately before plowing. This will materially aid in the decomposition of the green crop of herbage and also supply nourishment to the tree at a time when most needed—during its growing period. For the other element, apply superphosphate at the first irrigation in summer—from five hundred to eight hundred pounds per acre. It must always be borne in mind that a considerable part of the total percentage of phosphoric acid as shown by analysis will never be available for the use of the trees. I am also of the opinion that lime, either as sulphate or in its caustic form, can be applied with profit, especially for nut crops.

Finally, keep up the supply of potash, phosphoric acid, nitrogen, and humus, but first of all humus.

FERTILIZATION.

By S. M. WOODBRIDGE, OF LOS ANGELES.

The knowledge of the world has been immensely augmented in the last half century, and it is cause for regret that wisdom has not increased proportionately.

Our knowledge of pirates has enabled us to clear them from the high seas, but our wisdom is not such as to keep a corresponding set of robbers from the land, even within our own borders—witness the Ship-building Trust and the U. S. Steel Corporation.

Our knowledge in the matter of fertilization for many years has been complete, but our wisdom has not been sufficient to enable us to take advantage of the knowledge attained. Science has, decades ago, settled the fact that of the fourteen or fifteen elements which go to make up organic matter in plant growth there are only three expensive elements—viz, nitrogen, phosphoric acid, and potash—in which any soil is likely to be deficient. The changes which writers on the subject have attempted to run in on these three elements, and the complications with other matters that have been made with these three simples, are in some cases amusing, but often serious, as they land the student in the Slough of Despond. For example, the mixture of this subject with treatment of soils and soil analyses.

The treatment of any given soil is a subject entirely different and apart from the subject of fertilization, although they are intimately

connected, and for success, dependent upon each other, just as fertilization and irrigation are independent, yet dependent for success upon each other.

In regard to the three elements, the only *definite* way of ascertaining which and how many of them should be used on any given soil is to put the question to the soil and get the answer in the crop. This is done by the test-plot system. It is accomplished by making a number of plots and applying the elements singly, doubly, and all three together, viz:

- Plot 1. Nitrogen.
- Plot 2. Phosphoric acid.
- Plot 3. Potash.
- Plot 4. Nitrogen and phosphoric acid.
- Plot 5. Nitrogen and potash.
- Plot 6. Phosphoric acid and potash.
- Plot 7. Nitrogen, phosphoric acid, and potash.
- Plot 8. Nothing.

By tending these plots alike and harvesting the crops from each separately and comparing the results in quantity and quality is the only rational way to determine which is the best and most economical way of fertilizing.

In the absence of test plots, the only rational way to fertilize is to replace the three simples in the ratio that any crop will remove them, due consideration being given to the natural advantages of the soil as evidenced by experience. To illustrate: When you see a young orange orchard with vigorous growth and large and perhaps coarse oranges, one knows that nitrogen is in excess in the soil and that, therefore, the nitrogen can be cut down in the fertilizer to be applied. Remember that in putting back on the soil what the crop takes off you will be maintaining the integrity of your soils, and that at the end of ten, or twenty, or thirty years your soils will be as rich as in their virgin state. Any one deviating from this rule (*i. e.*, in getting fertilization mixed up with the treatment of your soils, and with the abstruse and impracticable soil analyses) will find himself in trouble, like the boy who was being taught the points of the compass: "Now, Johnny," said the teacher, "face the north. Right. What is on your right hand?" "The east." "And what is on your left?" "The west." "And what is behind you?" "That patch on my pants. I told ma you would see it." And so people who attempt to deal with soil analyses will find that, instead of having the glorious south behind them to nourish productive and paying crops, they will have nothing but a patch on their pants.

Some thirty years ago it was thought that any chemist could analyze a soil and tell in what it was deficient and so supply the needs of

a crop, but science and practice soon decided that such was not the case. There are two good reasons for this:

First—Chemical science has not advanced far enough to be able to determine the availability of plant food in a soil; and,

Second—It is impracticable. Soils vary, even within a few feet of each other. The soil that is in front of your house will vary from that behind the house in analysis, and no two chemists analyzing the same soil by different schemes will agree in their results.

I see from this little work distributed at this Convention that there are about 12,000,000 acres of improved farm and ranch lands in the State. If these acres would have to be analyzed every year, it would take more chemists to analyze them than there are in the United States.

Last summer I attended the Farmers' Institute school at Long Beach. There was a professor there from five hundred miles away to instruct the attendance in this matter of fertilization. There was also a rancher there from some sixty miles distant, who asked the question, "What is the proper fertilizer for tomatoes?" Instead of answering the question, the professor asked, "What kind of soil are you growing them on?" The answer was, "Decomposed granite soil in the foothills." The professor said, "Well, before I could answer the question, I would have to analyze the soil." That might have been a satisfactory answer to some people, but I fail to see how the rancher or his crop was benefited in the least.

In regard to the proper treatment of your soils, so as to make the plant foods applied of the greatest value, it is very difficult to say much that is generic, as it is largely a local question, which each farmer must determine for his own particular land. Generically speaking, all lands need to have the supply of humus maintained. We find, in the south, that from four to seven tons of stable manure, or its equivalent, per acre, is sufficient, and this is applied for the purpose of lightening up the soil, making it more receptive and retentive of the water, and this is caused by the decomposition of the humus in the soil. We find that twenty or twenty-five tons per acre will decompose in the same space of time as one ton; hence, it seems necessary to apply a moderate amount annually.

I have used the term "stable manure or its equivalent." We, in the south, are growing green crops to a large extent with success, and plowing them under in January or February, where practical. Peas, bur-clover, and natural grasses are all good, and should be plowed-under some weeks before the trees are due to bloom, as plowing during the blooming season is very apt to hinder the fruit from setting or to cause it to drop thereafter.

Straw or old hay is also being largely used as a source of humus,

with very satisfactory results. It is worth from four to five times as much per ton as stable or corral manure.

VICE-PRESIDENT McINTOSH. Members of the Convention, I am gratified to be able to announce to you that we have by this paper cleared up the entire program.

SECRETARY ISAAC. Mr. Kearney's resolution relative to the appointment of a committee of fifteen was adopted, and President Cooper, before he was called home, informed me that he would make the appointments later, when he had more time to consider the matter.

VICE-PRESIDENT McINTOSH. I presume the appointments will be announced through the press.

SECRETARY ISAAC. They will be announced through the press.

VICE-PRESIDENT McINTOSH. I requested President Cooper to do this on account of his long acquaintance with the people of California who are identified with the work along the lines pertaining to agricultural and horticultural pursuits.

MR. FAULKNER. May I ask a question in regard to the use of the three elements most easily exhausted from the soil—nitrogen, phosphoric acid, and potash? May I ask whether it is proper to supply each one of these three elements at different times of the year, as some authorities contend, or to supply them all at one time?

PROF. WOODBRIDGE. I have never known an authority to claim that you could at one time put on your nitrogen, at another time your phosphoric acid, and at another time your potash. The soil is built up homogeneously, so to speak. In building it up all the elements go into it simultaneously. Any different process would be like trying to build a brick house by laying down three or four bricks, some sand on top of that, some lime on top of that, and some water on top of that, the result being that you would not have a very substantial wall. The soil elements referred to are applied all together, perhaps with the exception of nitrogen. Nitrogen excites a large flow of sap and makes the tree grow rank. Apply one hundred and fifty pounds of nitrate of soda on an acre of grapevines at the right time of the year and it will destroy any crop of grapes you would have had by causing the sap to flow so freely that the vines would run into wood growth and leaf growth. So with tomatoes. The only case wherein we find it of advantage to apply any of the elements singly is the application of nitrogen in the spring of the year, which makes the sap flow when the fruit is setting, as it will make a succulent stem and therefore sets the fruit; but it is dangerous to use too much of it, because only a rank growth of wood and leaf will result.

DISCUSSION ON OVERPRODUCTION OF FRUIT PRODUCTS.

MR. KEARNEY. Mr. Chairman, before the proceedings close, I would like to say a few words with reference to some arguments that have been made before this Convention concerning overproduction. I wish to emphasize the impression which I have that our difficulties in marketing our crops do not lie in reducing the quantity of our products, but in studying the ways and means of distributing our products and reaching the market properly. I think Mr. Barnhill in his paper has helped us out a good deal by his suggestions and the information he has given us concerning the way in which some goods, that were not of the highest excellence, had been sold in large quantities. If you can take a product which of itself does not command respect and esteem and approval and by judicious advertising get the public to buy it freely and in very large quantities, how much more successful should we hope to be when we present a commodity which will benefit every buyer to the greatest extent. Who will urge the proposition that the consumption of fruit will injure any one? On the contrary, we have the support of the testimony of the entire medical profession and of all thinking and observing people to the effect that the consumption of fruit is of the greatest benefit. We in California are meat (beef) eaters far more than we ought to be. We need education. It is in our power, as fruit-growers, to educate ourselves and our neighbors, the whole community, as to the benefits to be derived from consuming fruit. Mr. Barnhill has pointed out one way, that is, by liberal advertising. It is a practical, business way. It has been tested for many years by the most successful merchants in the world. Any one who has ever traveled through England has seen the walls in all directions plastered with advertisements. We in America advertise largely, in every possible way. You can think of many successful merchants who are doing it, and they make fortunes for themselves by doing it. Isn't that a lesson to us? We have products to sell. We want our business to prosper. Why should we not follow in their footsteps? I had, as president of the Raisin-Growers' Association, some years ago, a problem to solve in the matter of disposing of a surplus of raisins. The preceding board of directors had on hand 1,500 carloads of raisins after the close of the season—the election of directors took place in April as you all know, and our raisins have been a Christmas, New Year's, and Thanksgiving product; we expect to sell most of our crop before Christmas, but in the April following we had on hand unsold 1,500 carloads, out of about 3,400 carloads. The growers put in a new board of directors and elected me on the board, and we had to face that problem. I said to the packers: You are interested in seeding raisins. We will help you to build up your seeding business if you will help us. We want you to

put out all of these raisins as seeded raisins. We want to fix a price upon every package, and that price shall be 10 cents. We want our raisins to go into the market at a low price, and not at 25 cents a pound, as they have heretofore. We want that paster to go on every package. We will say on each package, to ease the way: "Cut price, 10 cents, to advertise seeded raisins." That will let the retailer down easy. He had been charging 15, 20, and 25 cents a pound for the same raisins, and some explanation of the low price was necessary. When we offered those raisins to the trade we found our greatest opposition in Boston. The merchants there said they were not going to handle any raisins with the price on them, that it was their business to get any price they saw fit. We did not change the proposition. We sought out other dealers who would buy them, and those jobbers found retailers who would buy them, and they put them in their windows, a great lot of them: 10 cents for seeded raisins, 10 cents a pound. The neighboring dealer who would not buy them saw his customers going in to buy those seeded raisins. Very soon he wanted some, and the other man wanted some, and the jobbers all had to come into it; they had to have those raisins, and those "stickers" remained on all the packages. That is one of the most important lessons that I have learned in this fruit business. If the growers all over the State can organize, can control the way in which our fruit shall go out and control the right to put a price upon it, if we will do that we will solve this overproduction problem right there. We do not wish to make enemies of the trade. I have always since I have had anything to do with the Raisin-Growers' Association favored dealing with the trade and using it as a means of distribution. I have never been in favor of the producers or the Association establishing their own selling agencies, and I have come into conflict with many co-operative men on that ground. I do not wish to do anything in that way until we are so solidly combined that we can stand that fight; but we can take this step forward, we can establish our own packing-houses in every district throughout the Pacific Coast, pack our products and retain the power to put the price on them, on every package, every pound of prunes, of peaches, of apricots. If the growers will get together and do that you will not for many years to come hear of any overproduction.

MR. JUDD. It seems to me that the question of overproduction is largely local, inasmuch as, so far as my knowledge goes, every locality in the State has overproduction in some one thing, not from the fact that it has not a market value, but from the fact that something else has a greater market value. I have heard several state here that they had dug up their trees. That is true. The impression might be that they dug them up because they had ceased to be profitable. That might be true, too. I dug up thirty-five acres of orchard. Why did I

dig them up? If you will all explain why you dug up your trees we will see it is not from the fact of overproduction, but from the fact that there is something else you can produce which will bring greater returns than what you were producing. I dug up cherries, pears, plums, prunes, apricots, and peaches, and went to raising apples, simply because I found that apples would bring me \$200 or \$275 an acre when the others would only pay me \$120 or \$130. That is the reason. It seems to me that this matter of overproduction and markets was not touched upon as fully as it should have been. Now, I notice that the baking-powder people, and the H. O. mush people, and the manufacturers of all these other food products have agents in every town. They come into a store and they fix up a nice stand, and when you come in you are invited to partake of all kinds of delicacies, gotten up in the best manner. The store in which they are exhibiting these articles handles the goods and there is a set price upon them, 10 cents if you please, for seeded raisins, or whatever the goods may be, and the merchants in these towns do not object to handling the goods at the set price. It seems to me that the same plan could be used in distributing raisins, and prunes and other dried fruits. They have got to catch all that comes their way, because the other fellow is doing something in that direction. This overproduction, to my mind, is only local and spasmodic. We kind of "let go." We don't reach out for the markets, because we think we have them; we sleep on our rights. You do not take advantage of your opportunities and push the market, because you had it last year; and that is probably the cause of all this roar of overproduction. It is lack of "push" that is hurting you. The trouble with us in our section of the country is that we have not got enough stuff to push. If you who are suffering from lack of markets will purchase some of our lands and plant them out to orchards we will receive you with open arms, because we have not enough growers. We get \$1.15 a box for apples now and we were only getting 40 cents a box eight years ago, and we have 2,000,000 trees growing now while we had not at that time 100,000. Now, I believe the same proposition is applicable to all the fruit products of this State—push the business and you will have the market and keep it. Get the products to the mouths of the people, and do it in the way the yeast-powder people and others do.

MR. WHITE. Mr. Chairman, not having been present at the time Mr. Kearney made his remarks, I can hardly answer anything he has said or offer counter-arguments. I have already stated to this Convention my views upon overproduction. While I still believe I was correct in what I said, I am willing to admit that improvements may be made in the manner and method of marketing and in the extension of our markets. Unless the Chair especially requests it, I would not care to adduce any arguments or attempt to answer something when I do not know what I am answering.

VICE-PRESIDENT McINTOSH. Well, Mr. White, one point was in regard to a better and more systematic plan of distribution, a plan to be adopted by growers to prevent the middlemen from profiting by extortionate practices as between themselves and consumers, and Mr. Kearney used the illustration of the "sticker" on packages of seeded raisins. He has recapitulated as to that method, and stated to this Convention that that simple plan enabled the directors of the Raisin-Growers' Association at the time he was a member of the board of directors to dispose of a large amount of raisins on hand after the Christmas and New Year's trade, at the time of the annual election in April. To my mind it is one of the most convincing features of that entire proposition; but since you agree that there may be better methods, you may admit the virtue of the "sticker" proposition to help dispose of "hold-overs."

MR. WHITE. Mr. Chairman, now that I have been enlightened as to one of the points that has been brought up, I will say that the information which our board of directors has is that the putting of a "sticker," as they call it, on the outside of each package of seeded raisins did not enable the Association to dispose of any more raisins than had been disposed of prior to the time the "sticker" was put on; that, in fact, it was a drawback to the sale of seeded raisins. I was not a member of the board of directors during the year that plan was adopted, and that is the only year since the Association was organized that I have not been a director thereof. That year Mr. Kearney was a director and the president of the Association. He had full sway. That is the only year in the history of the Association that we have had a short crop. In 1891 we only had 74,000,000 pounds of raisins, whereas this year, though I have heretofore stated the amount to be only 110,000,000 pounds, I have since learned that there is a crop of from 115,000,000 to 118,000,000 pounds. I stated the other day that if we did not produce more than 100,000,000 or 110,000,000 pounds of raisins I thought they could be marketed; also, that I thought it was better to discourage the further planting of raisin vines until we improved our markets or until we could devise a scheme whereby we can dispose of our product at remunerative prices. I said that it was more profitable for us to produce 100,000,000 pounds of raisins and sell them at a price that would net the grower 4 cents a pound than it would be to produce 200,000,000 pounds of raisins and sell them at 2 cents a pound net to the grower, and I stay by it. I still think I am correct on that proposition.

MR. KEARNEY. The gentleman says that he was informed that the application of the "sticker" was of no benefit in the marketing of the raisins, but that in fact it was a detriment. He therefore does not know it of his own knowledge, but goes on information. I presume his

information came from certain packers and others interested adversely. I ask whether this is not so?

MR. WHITE. I will answer Mr. Kearney. My information was from the trade generally. They gave as a reason for the statement that the retail dealer did not like to be dictated to as to what price he should sell the seeded raisins from California; that if he saw fit to charge 12½ cents for a package, the customary price, he did not like to have the California producer say to him that he must sell them for 10 cents, and consequently he said he would not sell them at all. Now, I said the other day, Mr. Kearney, that if the trade could be educated up to it, when they become accustomed to it, so that we can get the producer and consumer closer together—I will admit that if we can introduce this proposition of having the price placed upon every package of raisins that we send out from Fresno, so that that package shall not be sold for more than 10 cents—when they become accustomed to it and the purchasers of those raisins become accustomed to the fact that they can go to their retail grocer and buy a package of raisins for 10 cents that perhaps it will be an improvement; but I said in my remarks the other day that they were not yet accustomed to it, and I say as a reason why that plan was not a greater success—I did not say it was a failure—that why it was not a greater success was because the trade did not like it. I think those are my exact words as stated then.

MR. KEARNEY. One other question to complete that point. I believe you said that the crop that year was a very small one and that this year it is a very large one. I believe that was the statement you made?

MR. WHITE. Yes, sir.

MR. KEARNEY. As I remember, from that small crop, in April—long after the raisin season was over—we had 1,500 carloads of raisins unsold. I think it is understood by gentlemen familiar with raisin-selling that the bulk of the crop is usually sold prior to Christmas time. Now in April, out of the small crop, we had 1,500 carloads of raisins unsold. We adopted the “sticker” and we sold all but 300 or 400 carloads before the next crop came in.

MR. WHITE. There are raisins carried over every year. There were raisins carried over from the year I refer to, 1891, when we only had 74,000,000 pounds. I was informed to-day that there were 400 or 500 carloads carried over that year, and I think that I can prove that the very year which my friend Mr. Kearney refers to, 1891, there were at least 500 carloads of raisins carried over into the crop of 1892.

MR. KEARNEY. I admitted that there were 300 or 400 carloads: in my statement I said that we sold all but 300 or 400 carloads out of 1,500 in that year after the season was over. I claim that the “sticker” sold the “hold-overs.”

DISCUSSION ON TRANSPORTATION.

MR. STEPHENS. In a very few words I desire to make an explanation as to the report of the Committee on Transportation. It has no bearing whatever upon the raisin proposition, because raisins are not transported as green fruits are transported. Your product is transported at fifty per cent of what it costs to move ours.

We are all actuated by the same motives and the same desires and we are all striving to attain the same ends. We are not here as alarmists, and on this question of transportation and refrigeration I have said that, with proper marketing methods, I believe the deciduous fruit products of this State can be increased threefold, and I still maintain that; but before we increase the crop threefold let us find the means of distributing it and disposing of it at a profit. So far as Fresno is concerned, and, to a great degree, so far as the apple interests and the dried fruit interests are concerned, what I shall say does not apply, and we are not at loggerheads. I have written as many articles and have been the cause of promoting as much immigration to this State as any man in it, and I am anxious to continue along the same lines if you will find some way of disposing of our products at a profit. Last year there were 58,000 trees in one holding dug up simply because they did not pay, and the land was rented for \$12 an acre to Japanese and Chinamen. If the land would pay better at \$12 an acre rent you must concede that there is not much profit in deciduous fruit-growing. I have a communication from the manager of that place, that there were 26,000 packages, as I recall it now, marketed from that one place at a heavy loss. The varieties were many, and the trees were taken out and the land rented as I say, and it is some of the best land in the State. I want, gentlemen, all of you to join together and find some means by and through which we can dispose of all the fruit products of California at a profit. When you do that you will not have to issue your magnificent pamphlets, because the State would be like the Klondike, you couldn't keep the people away from it. If you will make all the fruit-growers prosperous they will do more to advertise the State than all the literature and all the lecturers you can send out of the State in your interest.

GENERAL CHIPMAN. Mr. Chairman, will you indulge me just one minute on this proposition?

VICE-PRESIDENT MCINTOSH. Certainly.

GENERAL CHIPMAN. Gentlemen, the shipment of green deciduous fruits cuts a small figure in the fruit industry of California. The trouble about this report is that it apparently is applicable to the entire industry. What Mr. Stephens is seeking is right, and that is a better

service for the shipment of deciduous fruits across the continent. The freight rate is not too large. We are paying a less rate on those shipments East than is being paid on peaches that go from Georgia in competition with ours. The difficulty is not with the grower. It lies with the transportation company in making this arrangement for the transporting of our products. That is all there is about it. There is something wrong with regard to that arrangement, but it will be righted, and in order to conserve the business the companies will be forced to that course. There are now a large number of deciduous green fruit shipments that are paying no profit. You are a grower, like myself. I grow pears, but nobody can induce me to ship pears and take the risk. I sell my pears f. o. b. at my farm. When dealers in the East find that they can not have green pears and other deciduous green fruits shipped there and sold on these high commissions and we take all the risk, they will come here and buy them, just as they do our dried fruits. I think we will do harm to the State by putting out a document of this sweeping nature. It apparently applies to the entire fruit industry, while of the green deciduous fruit shipments there are only some 6,000 or 7,000 cars as against say 60,000 cars of fruit in all other forms, and we should not discourage the planting of fruit trees and the further growth of the industry in this State.

VICE-PRESIDENT MCINTOSH. Gentlemen of the Convention, the Chair desires at this time to state that when this Convention adjourns it will do so without date. The date of the next meeting will have to be fixed by President Cooper.

THE THANKS OF THE CONVENTION.

MR. STEPHENS. Mr. Chairman, I move a vote of thanks to the Fresno "Morning Republican" for supplying daily one hundred copies of the "Republican" to delegates to this Convention; also a vote of thanks to the press of Fresno for full and fair reports of the proceedings of this Convention; also a vote of thanks to the Chamber of Commerce of the city of Fresno for its successful efforts to supply the wants of the members and delegates to this Convention.

Motion duly seconded and carried.

MR. STEPHENS. Now, Mr. Chairman and delegates, I propose that a vote of thanks be tendered to our worthy Vice-Chairman, our temporary presiding officer, for the very able and impartial manner in which he has discharged the duties of that responsible position. I think it is due, because he certainly has ruled impartially; he has endeavored to give all an equal opportunity to discuss every question properly before this Convention for consideration, and therefore I take great pleasure, gentlemen, in offering this resolution, and I move that

a rising vote of the delegates of this Convention be given in the affirmative of this motion.

VICE-PRESIDENT STABLER. Gentlemen, those in favor of the motion will signify it by rising.

Carried unanimously.

MR. McINTOSH. I return thanks to the Convention for its extremely courteous and emphatic manner of thanking me.

RESOLUTION RELATIVE TO THE FRUIT-GROWING INDUSTRY OF CALIFORNIA.

GENERAL CHIPMAN. Mr. Chairman, before we adjourn I would like to offer the following resolution expressing the general feeling of the members of this Convention:

Resolved, That it is the sense of the California fruit-growers, in convention assembled, that the fruit-growing industry of California is in a generally satisfactory and prosperous condition.

Motion seconded.

MR. STEPHENS. I desire to say, Mr. Chairman, that, as I have already stated, in a general sense, so far as raisins are concerned, so far as dried fruits are concerned, this resolution is all right; but I am not willing to vote for such a resolution, not willing it should pass without a protest, under the circumstances, until these reliefs have come which it is said are coming. The organization referred to by Mr. Judd can not come to California and buy fruit, it can not receive from anybody here fruit consignments, except by and with the confirmation of the Armour Car Company alone. No man, General Chipman or any one else, would dare to enter into competition with it. You can't do it. We want that power taken away from it. We want the Southern Pacific Company to remove that incubus which hangs, like a pall, over this great and glorious State. General Chipman has said that the proportion which the green fruit shipments bear to the whole of the fruit shipments is small. That is true, but if we could dispose of three or four times as much green fruit as is now being disposed of you would relieve the pressure of the dried fruit market, you would not be compelled to resort to the drying of your fruits as you are now.

VICE-PRESIDENT McINTOSH. Excuse me, Mr. Stephens. The Chair will certainly have to rule as regards this resolution that it can not be segregated for the purposes of discussion. To get the proposition down to a single product, and one that is comparatively small, is certainly taking advantage of the man who introduced the resolution. If in your judgment the resolution as a whole is erroneous, it is your privilege to controvert it.

MR. STEPHENS. I wish to argue against it from this standpoint,

that, because of that inclusion, it would be like placing me in a car with a smallpox patient, and I don't propose to be transported in a car that contains a smallpox patient. And here is another thing. A resolution is offered here when almost every fruit-grower in the State has gone home from this Convention.

Cries of "Question!"

VICE-PRESIDENT McINTOSH. Let us have the resolution read again, Mr. Secretary, please.

Secretary Isaac reads resolution offered by General Chipman.

VICE-PRESIDENT McINTOSH. You see there is some qualification there, Mr. Stephens. "Generally" covers the whole proposition. Those who are in favor of adopting the resolution as a part of the records of this Convention signify it by saying aye; contrary minded, no.

MR. STEPHENS. No.

VICE-PRESIDENT McINTOSH. It is carried.

MR. STEPHENS. Hold on. I want a division on this.

A rising vote is taken on the adoption of the resolution, all the members voting in the affirmative with the exception of Mr. Stephens and Mr. Cutter, who voted in the negative.

VICE-PRESIDENT McINTOSH. Russ, you look lonesome. The motion is carried, upon a division. It is so ordered.

On motion, the Convention adjourned *sine die*.

ELLWOOD COOPER,
Chairman.

JOHN ISAAC,
Secretary.

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